

Unit 2

Fur, Fins, and Feathers:  
**Animal  
Classification**

Teacher Guide



Grade 3

Unit 2

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# **Fur, Fins, and Feathers: Animal Classification**

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## **Teacher Guide**

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# Welcome to Amplify CKLA

Dear Educator,

I am thrilled to welcome you to your Amplify CKLA 3rd Edition Teacher Guide.

At Amplify, we are dedicated to collaborating with educators like you to create learning experiences that support literacy development for all students. Amplify CKLA was designed to help you bring effective Science of Reading practices to life in your classroom, and we have been thrilled to see the impact it has had on students across the country.

The 3rd Edition builds on the robust principles and instruction of previous editions of Amplify CKLA to provide better-than-ever support for teaching and learning.

We've made significant improvements to Amplify CKLA in the areas you told us mattered most. In 3rd Edition, you will find more opportunities for differentiation to meet the needs of all learners—including multilingual/English learners—streamlined pacing, and bolstered writing instruction based on the science of reading and writing.

At its foundation, Amplify CKLA is built on the finding that word recognition and language comprehension are both critical to reading comprehension and writing composition.

In Grades 3–5, Amplify CKLA lessons combine skills and knowledge in content-driven units with increasingly complex texts, close reading, and a greater writing emphasis. Students start to use their skills to go on their own independent reading and writing adventures.

I know how overwhelming it can feel to start a new curriculum, but you are not alone! As you embark on this literacy journey with Amplify CKLA, we are here to support. We offer comprehensive professional development resources, including videos, podcasts, webinars, and virtual and in-person training, to help you make the shift to the Science of Reading.

We share the common belief that every child deserves to become a proficient, enthusiastic reader and writer, and I am confident that we can realize this goal together. Thank you for your unwavering commitment to your students' success and for your role in shaping the future of literacy instruction.

Sincerely,

**Susan Lambert**

Chief Academic Officer, Literacy  
Host, Science of Reading: The Podcast



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**Amplify**CKLA

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300

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# Introduction

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## FUR, FINS, AND FEATHERS: ANIMAL CLASSIFICATION

This introduction includes the necessary background information to teach the *Fur, Fins, and Feathers: Animal Classification* unit. This unit contains 15 daily lessons, plus two Pausing Point days that may be used for differentiated instruction. Each lesson will require a total of 120 minutes. Lesson 16 contains the Unit Assessment.

As noted, two days are intended to be used as Pausing Point days. These Pausing Points are embedded into the instruction at appropriate points, with the first one after Lesson 7 and the second after Lesson 15. You may choose to continue to the next lesson and schedule the first Pausing Point for another day in the unit sequence. Pausing Points can be used to focus on content understanding, writing, spelling, grammar, morphology skills, or fluency.

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## TEACHER COMPONENTS

- Teacher Guide

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## DIGITAL TEACHER COMPONENTS

These resources can be found at [learning.amplify.com](https://learning.amplify.com):

- Teacher Presentation Screens
- Flip Book
- Visual Supports for Teaching
- General English Learners
- Assessment Guide: Unit Assessment
- Take-Home Pages
- Pausing Point Activity Pages
- Caregiver Letter
- Fluency Supplement

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## STUDENT COMPONENTS

- Reader
- Activity Book

**Note:** Students may need computer access if you choose to have students publish their narratives on the computer.

In the back of this Teacher Guide, you will find a section titled “Teacher Resources.” In this section you will find the following:

- Glossary
- Activity Book Answer Key

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## SKILLS

### Reading

The Reader for Unit 2 is entitled *Rattenborough’s Guide to Animals*. Although it is a nonfiction Reader, Rattenborough, a fictional character, is the narrator that guides students through the factual information to make the text more accessible to students. Students who received Core Knowledge Language Arts (CKLA™) instruction in Grade 1 will likely remember Rattenborough as the narrator for the *Animals and Habitats* domain.

This Reader consists of selections that explain how scientists classify animals. Students will learn about the characteristics of living things and how scientists classify living things using these characteristics. Students will take home text copies of the chapters in the Reader throughout the unit. Encouraging students to read a text directly related to this domain-based unit will provide content and vocabulary reinforcement, along with fluency practice.

### Spelling

During the spelling portion of the lessons, students will review adding suffixes such as *–ed*, *–ing*, and *–es*, as well as whether to double the final consonant when adding the suffixes. Challenge Words will be added to each spelling list. Students will review alphabetizing to the second and third letter in preparation for learning dictionary skills.

### Grammar

In grammar, students will review subjects, predicates, fragments, and run-on sentences. Students will also be introduced to subject pronouns, their antecedents, and object pronouns. Students will write compound sentences by adding subjects and predicates to simple sentences.



## Morphology

During the morphology portion of the lessons, students will learn the prefixes *un-*, *non-*, *re-*, and *pre-*. Students will discuss how adding prefixes changes the meaning of root words and how the parts of speech of words may change. Students will have opportunities to apply their knowledge of these words during oral and workbook activities.

### WHY THIS UNIT IS IMPORTANT

This unit introduces students to the science of classification. Students will learn about five groups of vertebrates, why scientists classify animals into groups, and the characteristics by which they make these determinations. The ability to classify information is an essential skill of organizing, analyzing, and understanding data. Students will develop scientific skills as they observe and practice identifying important characteristics of organisms and objects.

In this unit, students will be asked to engage in structured inquiry discussions and exercises. During these activities, students will be asked to respond based on their observations and thinking. By asking questions such as “How do you know?” and “Why do you think so?” the teacher will guide students in making reasonable statements based on what students already know and the evidence they can observe.

The content students learn in this unit will serve as the basis for more in-depth study in the later grades of how living things are classified, the life cycles and reproduction of animals, oceans and marine life, and evolution.

## What Students Have Already Learned

Students who have received Core Knowledge Language Arts (CKLA) instruction in Grades K–2 will already have pertinent background knowledge for this unit. For students who have not received prior CKLA instruction, introductory knowledge is addressed at the beginning of each unit.

Kindergarten, *Moo, Cluck, Oink: Farms* (Kindergarten)

Grade 1, *A World of Homes: Animals and Habitats* (Grade 1)

Grade 2, *Our Planet: Cycles of Nature* (Grade 2)

Grade 2, *Butterflies, Bees, and Beetles: Insects* (Grade 2)

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## WRITING

Students have many opportunities to write in a variety of ways and for different purposes. The formal writing piece for the *Fur, Fins, and Feathers: Animal Classification* unit is a short, informational writing piece that focuses on organizing and communicating characteristics and classification of one specific vertebrate. Students learn to introduce a topic, group related information together, and provide supporting ideas, facts, and details. The project can be done with or without the use of technology, but having students use computers to research, write, and publish their projects is highly recommended.

Everyday writing opportunities come in many forms, including short and extended responses requiring evidence from the text. Students will also use graphic organizers to gather and categorize information from reading or from the read-aloud, or to plan for writing. Many lessons provide opportunities for students to collaborate, share ideas, and give feedback on their writing.

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## UNIT ASSESSMENT



### Digital Assessment

This unit includes a Unit Assessment for students to complete digitally. The digital assessment evaluates students in the skills and concepts covered in *Fur, Fins, and Feathers: Animal Classification*, including vocabulary, grammar and morphology, comprehension skills, and content knowledge. The assessment will provide you with meaningful student data and reporting that offers insights into each student's learning progress and recommendations on ways to support your students based on their learning needs. The assessment is a variation of the Unit Assessment found in the Teacher Guide. To access the digital assessment, please log onto the Amplify platform and assign the assessment to your students.

If your students are unable to access the assessment digitally, you may wish to use the Unit Assessment provided in the Teacher Guide and direct your students to complete the corresponding Student Assessment pages.

### Print

The Unit Assessment in Lesson 16 evaluates each student's learning of content, reading skills, and language skills taught during the unit. This assessment can be found in the Teacher Guide. The student pages are in the Assessment Guide: Unit Assessment booklet to print or make copies for each student.

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## FLUENCY SUPPLEMENT

A separate component, the Fluency Supplement, is available for download on the Amplify website. This component was created to accompany Core Knowledge Language Arts (CKLA) materials for Grade 3. It consists of selections from a variety of genres, including poetry, folklore, and fables. These selections provide additional opportunities for students to practice reading with fluency and expression (prosody). For more information on implementation, please consult the supplement.

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## CORE VOCABULARY

The following list contains core vocabulary words from the novel. They can be found in the Vocabulary section at the beginning of each lesson. Boldfaced words in the list have an associated Word Work activity. The inclusion of the words on this list does not mean that students are immediately expected to be able to use all these words on their own. However, through repeated exposure throughout the lessons, they should acquire a good understanding of most of these words and begin to use some of them in conversation.



<b>Lesson 1</b> carnivore <b>habitat</b> herbivore omnivore	<b>Lesson 2</b> kingdom life cycle adapt characteristic <b>classify</b> vertebrates invertebrates	<b>Lesson 3</b> <b>spine</b> column exoskeleton nerves
<b>Lesson 4</b> cold-blooded <b>constant</b> huddle internal warm-blooded mammal reptile scale temperature	<b>Lesson 5</b> oxygen gill fin school migrate <b>aquatic</b> scale	<b>Lesson 6</b> amphibian shed transformation <b>hibernate</b> survive tadpole
<b>Lesson 7</b> suction cup <b>nocturnal</b> climate orchestra secrete	<b>Lesson 8</b> calcified sensitive venomous reptile <b>effectively</b>	<b>Lesson 9</b> inject <b>venom</b> molt
<b>Lesson 10</b> cavity glide <b>metabolism</b> insulation nest	<b>Lesson 11</b> <b>flock</b> feather plumage nectar attract	<b>Lesson 12</b> diaphragm mammary glands marine <b>stately</b> communicate language sonar predator
<b>Lesson 13</b> primatologist primate <b>behavior</b> intelligent activist	<b>Lesson 14</b> zoologist <b>observe</b> delta reproduction	



## 1

# Animal Researchers (Meet Rattenborough)

## PRIMARY FOCUS OF LESSON

### Core Connection

Students will observe and describe basic characteristics of animals at the zoo and record observations on a graphic organizer. [RI.3.7]

### Reading

Students will define and identify text features in the Reader. [RI.3.5]

Students will demonstrate an understanding of the Tier 2 word *habitat*. [L.3.4]

### Writing

Students will also write a short reflection on their experiences as animal researchers. [W.3.8, W.3.10]

### Language

Students will use conventional spelling when adding suffixes *-ed* and *-ing* to root words. [L.3.2e, RF.3.3]

## FORMATIVE ASSESSMENT

### Activity Page 1.2

**Animal Webcam Observations** Record animal observations and characteristics. [W.3.8]

### Activity Page 1.4

**Text Feature Project Hunt** Identify text features in the Reader. [RI.3.5]



### Activity Page 1.5

**Field Journal** Explain what you liked and disliked about being an animal researcher. [W.3.10]



**Teacher Presentation Screens:**  
all lessons include slides

## LESSON AT A GLANCE

	Grouping Recommendations	Time	Materials
Core Connection (35 min.)			
Introducing the Unit	Whole Group	10 min.	<input type="checkbox"/> Activity Pages 1.1, 1.2 <input type="checkbox"/> chart paper
Virtual Field Trip	Partner	25 min.	<input type="checkbox"/> Smithsonian National Zoological Park website
Reading (45 min.)			
Introducing the Reading	Independent/  Small Group	10 min.	<input type="checkbox"/> Activity Pages 1.3, 1.4 <input type="checkbox"/> Activity Page 1.4A (optional) <input type="checkbox"/> sticky notes <input type="checkbox"/> <i>Rattenborough's Guide to Animals</i> <input type="checkbox"/> white paper or file folder
Presenting the Reading	Whole Group	15 min.	
Discussing the Reading	Independent/  Small Group	15 min.	
Word Work: <i>Habitat</i>	Whole Group	5 min.	
Writing (15 min.)			
Field Journal	Independent	15 min.	<input type="checkbox"/> Activity Page 1.5
Language (25 min.)			
Introducing the Root Words	Whole Group	10 min.	<input type="checkbox"/> Activity Page 1.6 <input type="checkbox"/> Visual Support 1.1
Adding Suffixes <i>–ed</i> and <i>–ing</i>	Whole Group	15 min.	
Take-Home Materials			
Caregiver Letter			<input type="checkbox"/> Take-Home Pages 1.1, 1.2 <input type="checkbox"/> Caregiver Letter
Spelling			

## ADVANCE PREPARATION

### Core Connection

- Prepare to view the webcams from the National Zoo's website during the Virtual Field Trip.

### Reading

- On sticky notes, write the following text features: table of contents, heading, bold print, photo/captions, map, diagram, glossary, and chart. Make sure you have one sticky note for each student and a variety of text features.

### Spelling

- On chart paper create the following or prepare to display Visual Support 1.1.

#### ➤ Visual Support 1.1

Root Word	<i>-ed</i>	<i>-ing</i>

### Universal Access

- In this lesson, students will take a trip to a virtual museum to observe animals. Prepare students to engage with the content by doing/setting up the following:
  - Practice pronouncing these terms: *zoologist* and *characteristics*
  - Brainstorm different animals at the zoo and their characteristics
  - Have pictures of the following animals available to discuss their characteristics: squirrels, deer, bears, toucans, and parrots

- In this lesson, students will also read “Meet Rattenborough.” Prepare students to engage with the content by doing/setting up the following:
  - Meet the character and practice pronouncing Rattenborough.
  - Talk about and provide examples of different text features. Explain that text features are parts of the text that stand out, or are different from the rest of the text and information. Many authors use text features to highlight or call attention to important information.
  - Review each text feature and definition in the table below:

<b>Table of Contents</b>	Gives the reader an overview of what texts are in this Reader and where to find each text.
<b>Heading</b>	Gives the reader information about the key topics in a text.
<b>Bold Print Words</b>	Show important words or concepts in the reading.
<b>Photo and Captions</b>	Photos visually show you what the text is about and captions describe the photo.
<b>Chart</b>	Summarizes information that is in the Reader.
<b>Map</b>	Shows specific areas that are talked about in the text.
<b>Glossary</b>	Gives the definition of unknown words.
<b>Diagram</b>	Labels places or the parts of something discussed in the text.

- To ensure that all students have the opportunity to contribute during Turn and Talk and Think-Pair-Share exchanges, provide students with a signal such as folding their hands or raising a hand to indicate when both partners have added to the conversation.



## Lesson 1: Animal Researchers (Meet Rattenborough)



## Core Connection

**Primary Focus:** Students will observe and describe basic characteristics of animals at the zoo and record observations on a graphic organizer. [RI.3.7]

## INTRODUCING THE UNIT (10 MIN.)

- Explain to students that during this unit they will be animal researchers, or zoologists. Zoologists are scientists who are experts on animals. They study animal life and behaviors. They also classify different animals. As zoologists, the students will research and read about different kinds of animals and how they are classified.
- Have students take out Activity Page 1.1. Explain to students that their first job is to come up with a name for this animal based on its characteristics.
- **Think-Pair-Share:** On Activity Page 1.1, have students think and record their observations about the animal. Then, have students pair up to share their responses. Next, record student responses on chart paper.

## VIRTUAL FIELD TRIP (25 MIN.)

**Note:** Animals are more active at certain times of day. Switch webcams to find active animals or return at a different time of day.

- “Now we are going to take a Virtual Field Trip to the Smithsonian National Zoological Park to observe animals.”
- Have students take out Activity Page 1.2. Explain to students that during the Virtual Field Trip, they will take notes as they observe, just like real animal researchers, the animals from zoo webcams.
- Explain that they will work with a partner to brainstorm what they already know about the animals listed on Activity Page 1.2: Animal Webcam Observations in the “What I already know” column.
- Project the webcams from the National Zoo’s website for whole class viewing.
- Direct the students to the webcams on the Smithsonian National Zoological Park website. Discuss with the class the habitat, features, and behavior of each animal shown on the webpage.

## Activity Page 1.1



## D Differentiation

## Support

Define characteristics as things that make one animal different from another animal.

## Activity Page 1.2



- As students are viewing, prompt discussion by asking:
  - What is the animal doing?
  - How would you describe how the animal?
  - How would you describe the habitat?
  - What would animal researchers notice about this animal?
- Collect Activity Page 1.2 as students will use their observations for discussion during Lesson 2.



**MULTILINGUAL/ENGLISH LEARNERS**

**Speaking and Listening**

**Exchanging Information and Ideas**

<b>Entering/Emerging</b>	Ask students simple yes/no questions, such as “Does the animal have fur?”
<b>Transitioning/ Expanding</b>	Have students discuss with a home language peer their animal observations.
<b>Bridging</b>	Encourage students to answer questions using complete sentences and specific characteristics of animals viewed on the webcam.

## Lesson 1: Animal Researchers (Meet Rattenborough)

# Reading



### Primary Focus

Students will define and identify text features in the Reader. [RI.3.5]

Students will demonstrate an understanding of the Tier 2 word *habitat*. [L.3.4]

### VOCABULARY FOR “MEET RATTENBOROUGH”

- The following are vocabulary words used in this lesson. Preview the words with the students before the lesson and refer back to them at appropriate times. The words also appear in the glossary in the back of the student reader.

**carnivore, n.** an animal that mainly eats meat (carnivores)

**habitat, n.** a place where plants and/or animals live and grow (habitats)

**herbivore, n.** an animal that only eats plants (herbivores)

**omnivore, n.** an animal that eats both plants and meat (omnivores)

Vocabulary Chart for “Meet Rattenborough”		
Type	Tier 3 Domain-Specific Words	Tier 2 General Academic Words
Vocabulary	carnivore habitat herbivore omnivore	
Spanish Cognates	carnívoro hábitat herbívoros omnívoros	
Multiple-Meaning		
Sayings and Phrases		

## INTRODUCING THE READING (10 MIN.)

### Small Group

- Explain that during their new job they will have a partner researcher.
- Have students take out Activity Page 1.3 (a picture of Rattenborough).
- Ask, “What do you remember about Rattenborough and what did he teach you in previous grades?”

**Note:** Students may write their responses on Activity Page 1.3.

- Possible student responses: In first grade, students learned about habitats, herbivores, carnivores, and omnivores.
- Make sure each student has a copy of the Reader, *Rattenborough’s Guide to Animals*. “Let’s preview the Reader and all the features. What features do you see?”
  - Possible student responses: Table of contents, headings, subheadings, diagrams, charts, maps, illustrations, captions, labels, bold print, and glossary.
- Explain that during the lesson they will focus on defining and identifying organizational text features. Text features are parts of the text that stand out, or are different from the rest of the text and information. Many authors use text features to highlight or call attention to important information.
- Pass out one sticky note to each student with a text feature word on it. Have students place their sticky note near the proper text feature in their Reader.

## PRESENTING THE READING (15 MIN.)

### Table of Contents

- Point to the Table of Contents.
- “Did anyone label this part of their Reader with a sticky note?”
- Explain that the Table of Contents gives the reader an overview of what texts are in this Reader and where to find each text.

## Activity Page 1.3



### Student Reader: *Rattenborough’s Guide to Animals*



## Differentiation

### Support

Define features as parts of the text that stand out.

### Challenge

Students will identify all text features on the sticky notes.

## Chapter 1 Introduction: Meet Rattenborough



Greetings! Rattenborough, the famous explorer and animal expert here! Remember me? I taught you all about animals and **habitats** when you were just little kids in first grade. I've been busy since then traveling around the world. But, I'm back now to teach you everything I've learned about animals during my travels.

First, let's take a quick look at what you learned in first grade. Do you remember what a **habitat** is? A **habitat** is the place where animals and plants live. We learned that there are different **habitats** all over the world with different kinds of animals and plants living there.

We visited a desert **habitat** where it was very hot and dry. It hardly ever rains in a desert so the plants and animals that live there have to be able to get by with very little water. I bet you remember that cactus plants live in the desert, along with snakes and lizards.



*Rattenborough in one **habitat**.*

### Pages 2–3

- Point to the Heading.
- “Did anyone label this part of the Reader with a sticky note?”
- Explain that a heading gives the reader information about the key topics in a text. This chapter will be about meeting Rattenborough.
- Point to the photo and caption on **page 3**.
- “Did anyone label this part of their Reader with a sticky note?”
- Explain that photos are used to visually show you what the text is about and captions describe the photos. Read the captions aloud: Rattenborough is in a desert habitat. Tell students to always read captions to gain information.
- Point to the bolded word: habitat.
- “Did anyone label habitat with a sticky note?”

- Explain that bold print words are important words or concepts in the reading. The author bold prints the words so they are easy to find.
- Ask students, “Where in the Reader could we find the definition of *habitat* quickly?”
  - » the glossary
- “Did anyone label the glossary with a sticky note?” Have students turn to the glossary in their Reader and find the word *habitat*.
- Explain that a glossary is a place where readers can go to find the definition of unknown words.
- Read aloud the greeting from Rattenborough found in the first paragraph on **page 2**. Refer to the chart paper from earlier in the lesson with students’ responses to what they remember about Rattenborough.
- **Write-Pair-Share:** Have students look at the picture on **page 3** in the Reader and write one sentence about the picture using the word *habitat* and two additional nouns. After writing, tell students to share their writing with a partner. Remind students to signal when both partners have contributed to the conversation.
  - » Animals and plants that live in a desert habitat have to be able to live without much water. Plants and animals that live in a desert habitat are used to hot and dry weather.

We also visited an African savanna. A savanna is also called a grassland. There were lots of interesting animals living there—zebras, elephants, and even lions! To be perfectly honest, I was always a little nervous while we were in the savanna!

Next, we checked out some different kinds of forests. We went to a hardwood forest full of trees with leaves that change color and drop off in the fall. We saw squirrels, deer, and even bears. We saw lots of different kinds of birds in those tall trees.

Then, we visited a tropical rainforest that was very hot, humid, and wet. There were lots of birds in this forest, too. These birds were colorful, tropical birds like toucans and parrots.



*Rattenborough in three **habitats***

4

5

## D Differentiation

### Support

Be careful not to generalize Africa as a monolith or singular entity. Emphasize that Africa is a continent made up of over 50 countries that each have their own unique cultures, languages, cities, climates, and ranges of wildlife and habitats, including deserts, jungles, rainforests, and more.

### Pages 4–5

- Tell students to read **pages 4–5** to themselves to find the answer to the question: “What animals might you find in the three images on **page 5**?”
- When students have finished reading, restate the question and ask several students to give one example of either an animal found in a hardwood forest or a tropical rainforest.
  - » In a hardwood forest, you might find squirrels, deer, and bears. In a tropical rainforest, you might find toucans and parrots.



Last, but not least, we visited freshwater and saltwater **habitats**. In the freshwater **habitat**, we saw fish, turtles, ducks, and beavers. In the saltwater **habitat** of the sea, we saw starfish, crabs, lobsters, and sharks!




*Rattenborough in two water **habitats***

6

7

## Pages 6–7

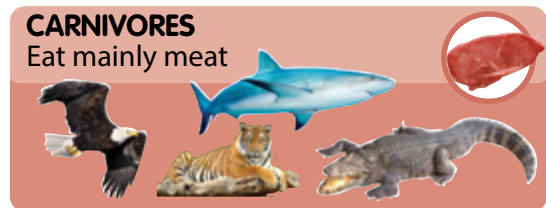
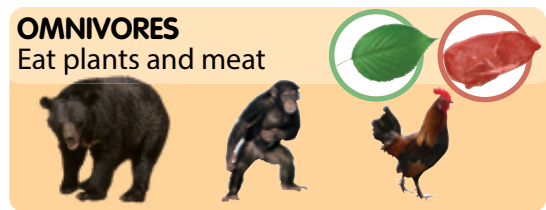
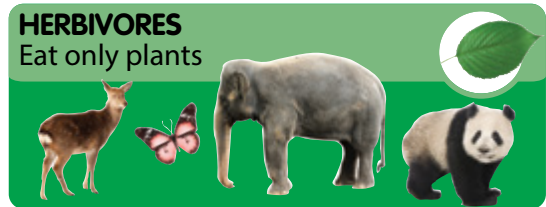
- Point out that *habitat* is a bolded word on **page 6**.
-  **Think-Pair-Share:** Why is the word *habitat* bolded?
  - » Because it is an important word in the text.
- Direct students' attention to the two images on **page 7** and ask what is similar in the characteristics of the two images of habitats.
  - » Both images include bodies of water. The top image has trees and appears to be a lake. The bottom image is an ocean.
- Point out the caption on **page 7**.

- Ask students to read **pages 6–7** to find out what is different about the water in the two images of habitats.
- When students have finished reading, restate the question and ask for answers.
  - » The top image is a freshwater habitat and the bottom image is a saltwater habitat.

Besides learning about **habitats** in first grade, we also studied the different kinds of things that animals eat. Do you remember talking about **herbivores**, **carnivores**, and **omnivores**? We learned that you can sort animals by what they eat.

So, get ready because we are going to learn a lot more about how to sort animals. Rattenborough, your personal animal expert, at your service!


See you next time!



*Different animals eat different things.*

## Pages 8–9

- Direct students' attention to the bolded word: *herbivore*. Have students look in the glossary for the definition and read it together as a class. Note the plural form of the word at the end of the definition and remind students that they will see this form of the word in the chapter as well.
- Point to the chart on **page 9**.
- Ask, "Did anyone label this part of their Reader with a sticky note?"
- Explain that charts are used to summarize information that is in the reader. It is also used to help compare the information. Graphs will also be used to summarize and compare information.

- Direct students' attention to **page 9** and discuss which animals are herbivores, omnivores, and carnivores. Note for students that these images are a way to *classify* animals by showing which animals would be herbivores, omnivores, or carnivores.
- Ask students to share which category they would put themselves in on the page. Note that people who eat only plants are usually called vegans rather than herbivores.
- Ask students to read **pages 8–9** to themselves to fill in the blank in the sentence: "When speaking of herbivores, carnivores, and omnivores, we are *classifying* animals by \_\_\_\_\_."
- When students have finished reading, reread the sentence and have students fill in the blank.
  - » what they eat
-  **Think-Pair-Share:** Have students name other ways that animals could be sorted with a partner.
- Remind students to signal when both partners have contributed to the conversation. Ask students to share one way to sort animals.
  - » size, shape, number of legs, movement, what is on the outside of their bodies

## DISCUSSING THE READING (15 MIN.)

### Small Group

1. **Literal.** What sticky notes did we not mention during our reading?
  - » Maps and Diagrams. Direct students' attention to the map on **page 151** that shows where Komodo Dragons live. Explain that maps are used to show the specific area that is talked about in the text. Direct students' attention to the diagram on **page 37** that shows the different parts of fish. Explain that diagrams label places or the parts of something that is discussed in the text.
2. **Literal.** Name two text features we found in our reading.
  - » Table of Contents, Heading, Bold Print, Photos/Captions, Diagram, Map, Chart, and Glossary
3. **Evaluative.** What text feature do you think is most important?
  - » Answers may vary.
  - Have students take out Activity Page 1.4 and read the directions aloud. Have students complete the project listed on Activity Page 1.4 independently or in small groups.
  - Students will need a piece of white paper or file folder to complete Activity Page 1.4.



### MULTILINGUAL/ENGLISH LEARNERS

#### Reading

#### Understanding Text Structure

<b>Entering/Emerging</b>	Lead students to complete the activity in small groups. Have them identify one text feature in the Reader and help them define the text feature.
<b>Transitioning/Expanding</b>	Have students complete this activity page in partners or small groups.
<b>Bridging</b>	Observe that students are able to complete this activity page independently. Ask students to explain why they think their examples of text features are correct.

### Activity Page 1.4



### Differentiation

#### Challenge

Students will complete Activity Page 1.4 using a different informational text.

#### Support

Students may use Activity Page 1.4A to complete Activity Page 1.4.



### Check for Understanding

If students are unable to identify text features in the Reader, then pull students and show examples of each feature in the text.

### WORD WORK: HABITAT (5 MIN.)

- In the Read-Aloud, you heard, “We visited a desert habitat where it was very hot and dry.”
- Say the word *habitat* with me.
- A habitat is a place where animals and plants live.
- Scientists can visit different habitats to learn about different animals and plants.
- Have you ever seen a different habitat? When did you see it? How would you describe it? Be sure to use the word *habitat* when you tell about it. (Ask two to three students. If necessary, guide and/or rephrase students’ responses to make complete sentences: “I saw a \_\_\_\_\_ habitat when . . .”)
- What’s the word we’ve been talking about? What part of speech is the word *habitat*?

» *habitat; noun*

- **Use a Making Choices activity for follow-up.** Directions: I will name a habitat. I want you to think about the types of animals and/or plants you will see there. For example, if I say, “desert,” you might say, “I may see cactus and snakes in a desert habitat.” Be sure to use the word *habitat* in a complete sentence when you share. Sample answers are below:

1. Grasslands

» I may see lions and grass in a grassland habitat.

2. Rainforest

» I may see tall trees and toucans in a rainforest habitat.

3. Saltwater

» I may see crabs and sharks in a saltwater habitat.

4. Freshwater

» I may see beavers and turtles in a freshwater habitat.

## 5. Hardwood Forest

» I may see tall trees with colorful leaves and bears in a hardwood forest habitat.

### Lesson 1: Animal Researchers (Meet Rattenborough)

# Writing



**Primary Focus:** Students will also write a short reflection on their experiences as animal researchers. [W.3.8, W.3.10]

#### FIELD JOURNAL (15 MIN.)

- During the unit, you will be stopping to record your thoughts as animal researchers. Each journal entry will have a prompt for writing.
- Today's Field Journal will be a reflection piece on animal researchers. The journal entry today asks: Did you enjoy being an animal researcher today? Explain. What did you like and dislike about being an animal researcher?
- Students will record their answers on Activity Page 1.5.



#### MULTILINGUAL/ENGLISH LEARNERS

##### Writing

##### Composing a Reflection

<b>Entering/Emerging</b>	Work with a small group to write a short reflection.
<b>Transitioning/Expanding</b>	Have students work with a partner to write a longer reflection.
<b>Bridging</b>	Have students work independently to write a longer, more detailed reflection.

#### Activity Page 1.5





## Lesson 1: Animal Researchers (Meet Rattenborough)



# Language

**Primary Focus:** Students will use conventional spelling when adding suffixes *-ed* and *-ing* to root words. [L.3.2e, RF.3.3]

### INTRODUCING THE ROOT WORDS (10 MIN.)

- Post or display Visual Support 1.1.

#### > Visual Support 1.1

Root Word	<i>-ed</i>	<i>-ing</i>

- Tell students that starting with today's lesson, they will be assigned a list of spelling words. The day they receive spelling words is considered Day 1. They will be assessed on the words on Day 5.
- Explain that the root words this week are verbs to which students will be adding suffixes.
- Have students take out Activity Page 1.6 and record the spelling words as directed. Students will be asked to write the root word plus the forms of these words when the suffixes *-ed* and *-ing* are added. Students will also be given two Challenge Words, *give* and *live*.
- As you introduce each of the spelling words, write it in the table, pronouncing each word as you write it. Have students take out Activity Page 1.6 and record the spelling work on their paper.

### Activity Page 1.6



**Note:** The following table already includes the Spelling Words.

Root Word	-ed	-ing
Hop		
Rub		
Ship		
Grab		
Patch		
Plan		
Stretch		
Finish		
Discuss		
Submit		

- Explain that a root word is what a word is called before any prefixes or suffixes are added to the word.
- Point out the vowel sound(s) in each word to students.
- When you reach the multi-syllable words (*finish*, *discuss*, and *submit*), model for students how to chunk each word into syllables to say and spell the word. Explain that when there are words with more than one syllable, it can be helpful to divide a word into syllables if we don't know how to read or spell it.



**MULTILINGUAL/ENGLISH LEARNERS**  
**Language**  
 Foundational Skills

<b>Entering/Emerging</b>	Work with a small group and circle the prefixes and underline the suffixes in each spelling word.
<b>Transitioning/ Expanding</b>	Have students work in pairs to circle the prefixes and underline the suffixes in each spelling word.
<b>Bridging</b>	Have students work independently to circle the prefixes and underline the suffixes in each spelling word.

## D Differentiation

### Support

If students are having difficulty with suffixes, focus on one suffix at a time. Have students read the root word, then the suffix, and blend them together to read the new word.

### Challenge

Have students brainstorm other root words with the *-ed* or *-ing* endings.

## ADDING SUFFIXES *-ED* AND *-ING* (15 MIN.)

- Tell students that you will now complete the remainder of the table by adding the suffixes *-ed* and *-ing* to each root word.
  - A suffix is a syllable placed after a root word. Suffixes change the meaning of the root word.
- Remind students that each root word is a verb and ask what the suffix *-ed* on the end of a verb signals.
  - » past tense; the action has already happened
- Ask students what the suffix *-ing* signals.
  - » present tense; ongoing action that is still happening
- Student tips for working with each root word, add the suffixes *-ed* and *-ing*.
  - Point out the words that end with CVC (consonant-vowel-consonant) and explain that the final consonant must be doubled before adding *-ed* or *-ing*. This is the case with *hop*, *rub*, *grab*, *ship*, *plan*, and *submit*.
  - Point out to students that adding *-ed* and *-ing* sometimes adds a syllable to the word.
  - Point out that when words already end with two consonants, the suffixes *-ed* and *-ing* are simply added. There is no need to double the end consonants because the consonants are already doubled, as is the case with the words *discuss*, *patch*, *stretch*, and *finish*.
  - Point out that the suffix *-ed* is pronounced /t/ in *hopped*, *shipped*, *patched*, *stretched*, *finished*, and *discussed*. The suffix *-ed* is pronounced /d/ in *rubbed*, *grabbed*, and *planned*. In *submitted*, the suffix *-ed* is pronounced /ed/ and adds an additional syllable.
- Explain that Challenge Words are words that are used very often. They may not follow spelling patterns and need to be memorized.
- Write the following sentence on the board: Some eggs will produce *live* tadpoles, which *live* in the water.
- Ask students to read this sentence correctly, pronouncing the first *live* as /liev/ and the second *live* as /liv/.
- Remind students that they will be assessed on these words later in the lessons. Have them keep Activity Page 1.6 for future spelling practice.

End Lesson

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## Lesson 1: Animal Researchers (Meet Rattenborough)

# Take-Home Materials

- Students will share Take-Home Page 1.1 with an adult and complete Take-Home Page 1.2.
- Caregiver Letter: this overview of the unit can be found in the program's online resources.

Take-Home  
Pages 1.1 and 1.2

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## 2

# Classifying Animals

## PRIMARY FOCUS OF LESSON

### Reading

Students will explain how text features help readers identify information about classifying living things. [RI.3.5]

### Speaking and Listening

Students will define and determine the author's point of view about animal classification. [RI.3.6]

Students will demonstrate an understanding of the Tier 2 word *classify*. [L.3.4]

### Language

Students will identify subject pronouns and pronoun antecedents [L.3.1f]

## FORMATIVE ASSESSMENT

### Activity Page 2.1

#### Living Things: Text Features Scavenger Hunt

Identify and provide evidence of text features in the Reader. [RI.3.5]


### Activity Page 2.3

**Subject Pronouns and Antecedents** Identify and use subject pronouns and their antecedents. [L.3.1f]



**Teacher Presentation Screens:**  
all lessons include slides

## LESSON AT A GLANCE

	Grouping Recommendations	Time	Materials
Reading (50 min.)			
Reviewing Text Features	 Small Group	10 min.	<input type="checkbox"/> What am I? cards <input type="checkbox"/> white paper <input type="checkbox"/> chart paper <input type="checkbox"/> <i>Rattenborough's Guide to Animals</i> <input type="checkbox"/> Activity Page 2.1
Introducing the Reading	Independent	10 min.	
Whole Group Reading	Whole Group	20 min.	
Discussing the Reading	Independent	10 min.	
Speaking and Listening (50 min.)			
Introducing the Read-Aloud	Whole Group	10 min.	<input type="checkbox"/> Activity Page 1.1 (from yesterday's lesson) <input type="checkbox"/> Author's Purpose Chart <input type="checkbox"/> Activity Page 2.2 <input type="checkbox"/> chart paper
Presenting the Read-Aloud	Whole Group	20 min.	
Discussing the Read-Aloud	Whole Group	15 min.	
Word Work: <i>Classify</i>	Whole Group	5 min.	
Language (20 min.)			
Grammar: Subject Pronouns and Pronoun Antecedents	Whole Group	20 min.	<input type="checkbox"/> Activity Page 2.3 <input type="checkbox"/> Parts of Speech Chart
Take-Home Materials			
Writing: Field Journal Entry			<input type="checkbox"/> Take-Home Page 2.1

## ADVANCE PREPARATION

### Reading

- Prepare one set of What Am I? cards for small groups.

### Speaking and Listening

- Create an Author's Purpose chart with the following questions:
  - Why did the author write the text or passage?
  - Does the author want to answer, explain, or describe a topic?
- Prepare five pieces of chart paper with the following titles: Paolo Piranha, Hilda Hippo, Tabitha Toad, Anna Anaconda, and Ebenezer Egret.
- Identify the following digital images online at [learning.amplify.com](https://learning.amplify.com) to project during the Read-Aloud: 2A-1–9.
- This lesson includes discussion about scientist Carolus Linnaeus. Note that, in addition to his work on zoological taxonomies, he also contributed to unjust ideas that attempted to classify certain racial groups as subspecies of human. Consider the potential sensitivity of this topic, and emphasize that, despite his contributions to modern taxonomy, much of his work should not be celebrated.

### Language

- Create the following Subject Pronouns Poster on chart paper or on the board for the Grammar lesson:

#### Subject Pronouns

A **pronoun** is a part of speech that takes the place of a noun. Every pronoun always refers to a specific noun. When a pronoun is the subject of the sentence, it is called a subject pronoun.

- Create the following Pronouns and Pronoun Antecedents Poster:

#### Pronouns and Pronoun Antecedents

**Pronouns** are words that take the place of nouns.

**Pronoun antecedents** are the words to which the pronouns refer.

Pronouns and their antecedents must agree in number and gender.



## What Am I? Card Game

- Prepare one set of cards for each small group.

<p>I am a place where readers go to find the definition of unknown words. What am I?</p> <p>Answer: Glossary</p>	<p>We often go together to give the reader a picture of what the text is about and a description of the picture. What am I?</p> <p>Answer: Photo and Captions</p>
<p>I am used to show parts of something that is labeled or places discussed in the text. What am I?</p> <p>Answer: Diagram</p>	<p>I am used to show that words or concepts are important in the reading. What am I?</p> <p>Answer: Bold Print Words</p>
<p>I am used to summarize information that is in the reader. What am I?</p> <p>Answer: Chart</p>	<p>I give the reader an overview of what texts are in the Reader or book and where to find each text. What am I?</p> <p>Answer: Table of Contents</p>
<p>I give the reader information about the key topics in a text. What am I?</p> <p>Answer: Heading</p>	<p>I am used to show the specific area that is talked about in the text. What am I?</p> <p>Answer: Map</p>

## Universal Access

- In this lesson, students will also read “Classifying Living Things” as a whole group. Prepare students to engage with the content by doing/setting up the following:
  - Review text features chart from Activity Page 1.4A

<b>Table of Contents</b>	Gives the reader an overview of what texts are in this Reader and where to find each text.
<b>Heading</b>	Gives the reader information about the key topics in a text.
<b>Bold Print Words</b>	Show important words or concepts in the reading.
<b>Photo and Captions</b>	Photos visually show you what the text is about and captions describe the photo.
<b>Chart</b>	Summarizes information that is in the Reader.
<b>Map</b>	Shows specific areas that are talked about in the text.
<b>Glossary</b>	Gives the definition of unknown words.
<b>Diagram</b>	Labels places or the parts of something discussed in the text.

- Assist students in finding examples of each text feature in the Reader.
  - Preview the following vocabulary words from the reading: *kingdom*, *life cycle*, *adapt*, *characteristics* and *classify*.
- In this lesson, students will also listen to a Read-Aloud about classifying living things by characteristics. Prepare students to engage with the content by doing/setting up the following:
- Remind students that scientists put living things into categories to classify them.
- Introduce the author’s purpose using the Author’s Purpose chart. Discuss each purpose (answer, explain, and describe) and use real world examples to explain each purpose.
- To ensure that all students have the opportunity to contribute during Turn and Talk and Think-Pair-Share exchanges, provide students with a signal such as folding their hands or raising a hand to indicate when both partners have added to the conversation.

## Lesson 2: Classifying Animals

## Reading



**Primary Focus:** Students will explain how text features help readers identify information about classifying living things. [RI.3.5]

## VOCABULARY FOR READING

- The following are vocabulary words used in this lesson. Preview the words with the students before the lesson and refer back to them at appropriate times. The words also appear in the glossary in the back of the student reader.

**kingdom, n.** a major group into which all living things are classified (kingdoms)

**life cycle, n.** the stages through which a living thing goes from birth until death

**adapt, v.** to change

**characteristic, n.** something that makes a person, thing, or group different (characteristics)

**classify, v.** to put things into groups based on similarities or type (classifying, classified)

Vocabulary Chart for: "Classifying Living Things"

Type	Tier 3 Domain-Specific Words	Tier 2 General Academic Words
Vocabulary	kingdom life cycle	adapt characteristics classify
Spanish Cognates		adaptar características clasificar
Multiple-Meaning	kingdom	
Sayings and Phrases		

## D Differentiation

### Support

Provide students with resource Activity Page 1.4A for support from Lesson 1.

## D Differentiation

### Support

Have students work in small groups to skim the text.

## REVIEWING TEXT FEATURES (10 MIN.)



### Small Group

- What am I? card game: In small groups, one student will hold all the cards fanned out in their hand. The student to the right will pick one card and read the question. The student to their right will answer the question. If the student does not know the answer, students in the group may give hints to the correct answer. Students will rotate the deck of cards to the next student.

## INTRODUCING THE READING (10 MIN.)

- Write the phrase “classifying living things” on the board or chart paper.
- “What text features would you look for in the Reader to help you define and classify living things?”
  - » Possible student responses: a heading that says “living things,” a picture of living things, the word *classify* in bold print.
- “Why do you think authors include these text features?”
  - » Possible student response: so readers can find information quickly and accurately.
- Pass out white paper to each student. In the center, students will write “Classifying Living Things.” Ask students to turn to the Table of Contents, locate the chapter “Classifying Living Things,” and then turn to the first page of the chapter.
- Timed Activity (five minutes): Have students skim **pages 10–19** using text features. Students may add information to their web that they learned about classifying living things from skimming the text using the text features.
- Have students come up to the board or chart paper and add information about classifying living things. Students may explain the text feature they used to find the information.

# 2 Classifying Living Things



Rattenborough here! Do you remember who I am? I'm here now to help you learn about how scientists sort, or **classify**, living things into groups. Since I am an expert on animals, we will focus mainly on animals.

First, I'm going to ask you two very important questions. How do you know if something is living or nonliving? What important **characteristics** do all living things have?

- All living things create energy from food.
- All living things can have babies or make other living things just like themselves.
- All living things have a **life cycle**. They start out small and then grow.
- All living things change to fit in better with their **habitat**.



*All living things are **classified** by their **characteristics**.*

## WHOLE GROUP READING (20 MIN.)

### Pages 10–11

- Read the title of the chapter together as a class, “Classifying Living Things.” Explain that the heading, “Classifying Living Things” is a heading that helps you to identify the information quickly.
- On **page 10**, have students locate the word *classify* in the first paragraph. Remind students that bold printed words are important concepts in the reading. Ask students, “Where in the Reader could we find the definition of *classify* quickly?”
  - » the glossary
- Whole group read: As a whole class, read aloud the first paragraph on **page 10**.

- Have students read the caption and look at the images on **page 11**.
- Ask students to read **pages 10–11** to themselves to find the answer to the question: “What are characteristics of all living things?”
- When students are finished reading, have students look back at the images on **page 11** and point out how they represent the four characteristics of living things.
  - » eat food, start out small and then grow, can have babies, and fit in with their habitat



### Check for Understanding

**Write-Pair-Share:** Share the following prompt with students:

- Describe how the image on **page 11** helps you to determine the characteristics of all living things.

Have students write 1-2 sentences describing characteristics of living things in the image. After writing, have students share their writing with a partner. Remind students to signal when both partners have contributed to the conversation. Sample answer is below.

- » All the pictures on **page 11** show one characteristic that classifies things as living.
-

Plants make up one group of living things. We know this because plants have the same **characteristics** that all living things have.

- Plants create energy from food. They make their own food using the sun, water, and gases in the air.
- Plants make seeds that become new plants.
- Plants grow from small seeds into seedlings and become adult plants.
- Plants can **adapt** to their **habitat**. For example, all plants need water, but cacti are really well adapted to retain water.



*Plants have the **characteristics** that all living things have.*

## Pages 12–13

- Have students look at the pictures and read the caption on **page 13**.
- Ask students to read **page 12** to themselves to discover plant characteristics.

Animals of all shapes and sizes are living things, too. So, animals also have the same **characteristics** that all living things have.

- Animals get energy from the food they eat.
- Animals can have babies.
- Baby animals are small but grow into adult animals.
- Animals can **adapt** to their **habitat**. For example, the fur of polar bears looks white so they can blend in with the snow where they live.



*Animals have the **characteristics** that all living things have.*

## Pages 14–15

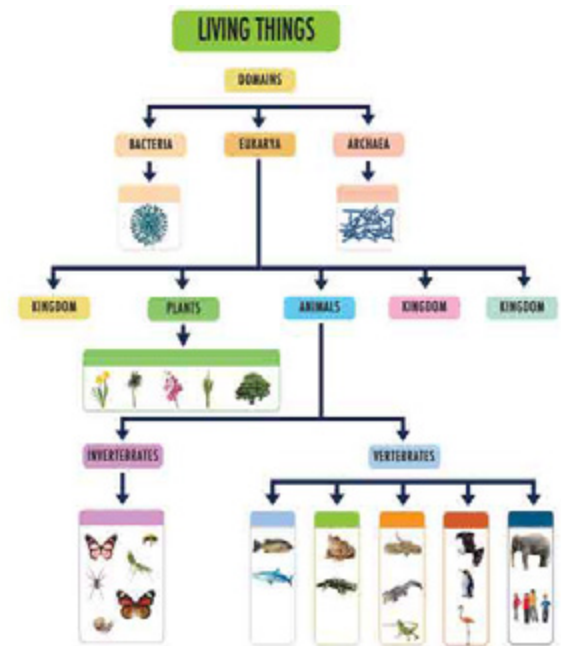
- Have students look at the pictures and read the caption on **page 15**.
- Ask students to read **page 14** to themselves to find out animal characteristics.



Plants and animals are both living things, but plants and animals are different in important ways. For example, animals eat other organisms for food, but plants make their own food.

Scientists study how living things are alike and different and sort, or **classify**, them into three domains. From one domain, living things are classified into large groups called **kingdoms**. There are five **kingdoms** of living things. You have just learned about two—the plant **kingdom** and the animal **kingdom**. (You will learn about the other **kingdoms** in later grades.) The living things in each **kingdom** can then be sorted into more specific groups.

Scientists study animals within the animal **kingdom** and **classify** them by the **characteristics** they share with other animals. One way scientists **classify** animals into more specific groups is by checking if an animal has a backbone. Insects do not have backbones, but birds and fish do. So, animals with a backbone are in different, more specific groups within the animal **kingdom**. Insects make up the largest group in the animal **kingdom**. But there are other large groups of animals, such as birds and fish. You will learn more about other major groups in future chapters.



Scientists **classify** living things into three domains and then five **kingdoms**. They **classify** animals into other groups by their **characteristics**.

## Pages 16–17

- Ask students to scan the bold words on **page 16**. What word is bold?
  - » kingdom
- What does that tell you about the word *kingdom*?
  - » That it is an important word in the reading.
- “How does the chart on **page 17** help your understanding of the classification of living things?
  - » the chart shows how living things are classified into five different kingdoms. We already read about two of the kingdoms: plants and animals.
- As a whole class, read aloud **pages 16–17**.

We **classify** the things around us so we can get to know our world better. As we learn about living things, we also learn about ourselves and our place in the world.

So far, scientists have **classified** over 1 million different kinds of animals. Most of these are insects! Many scientists think there may be close to 10 million other animals that still have not been **classified**!

That's all for now! Rattenborough, over and out! I'll be back in the next chapter to tell you more about how animals are **classified** into different groups.



*Insects are the largest group of animals.*

## Pages 18–19

- As a whole class, read aloud **pages 18–19**.

## DISCUSSING THE READING (10 MIN.)

### 1. **Literal.** How do scientists classify animals?

- » based on certain characteristics and behaviors; One thing scientists look for is if an animal has a backbone.

### 2. **Inferential.** Why do scientists classify animals?

- » to better understand animals and how they are alike and different.
- Have students take out Activity Page 2.1 and complete independently.



#### MULTILINGUAL/ENGLISH LEARNERS

#### Reading

#### Understanding Text Structures

<b>Entering/Emerging</b>	Lead students to complete the activity in small groups. Have students identify and define one text feature in the Reader.
<b>Transitioning/Expanding</b>	Have students complete this activity page in partners or small groups.
<b>Bridging</b>	Observe that students are able to complete this activity page independently. Ask students to explain why they think their examples of text features are correct.



#### Check for Understanding

If students cannot identify text features in the Reader, then pull students aside to assist in identifying specific text features from Activity Page 2.1.



#### Differentiation

#### Challenge

Have students create additional text features that will support the information from the Reader.

#### Activity Page 2.1



## Lesson 2: Classifying Animals

# Speaking and Listening



### Primary Focus

Students will define and determine the author's point of view about animal classification. [RI.3.6]

Students will demonstrate an understanding of the Tier 2 word *classify*. [L.3.4]

### VOCABULARY

- The following are core vocabulary words used in this lesson. Preview the words with the students before the lesson. Students are not expected to be able to use these words immediately, but with repeated exposure throughout the lessons they will acquire a good understanding of most of the words. Students may also keep a “unit dictionary” notebook along with definitions, sentences, and/or other writing exercises using these vocabulary words.

**kingdom, n.** a major group into which all living things are classified (kingdoms)

**characteristic, n.** something that makes a person, thing, or group different (characteristics)

**classify, v.** to put things into groups based on similarities or type (classifying, classified)

**vertebrates, n.** animals that have a backbone

**invertebrates, n.** animals that do not have a backbone

Vocabulary Chart for “Classifying Animals by Characteristics”

Type	Tier 3 Domain-Specific Words	Tier 2 General Academic Words
Vocabulary	vertebrates invertebrates kingdom	characteristics classify
Multiple-Meaning		
Sayings and Phrases		

## INTRODUCING THE READ-ALOUD (10 MIN.)

- Pass out Activity Page 1.2: Animal Webcam Observations. Ask students to describe what they saw and know about these animals. Ask students to share observations and descriptions of animals viewed on the webcams.
- “How were some of the animals alike on the webcam? How were they different?”
- Explain that in order to classify all living things, scientists put them into categories called kingdoms. Remind students that they heard about kingdoms during the reading.
- Explain that during the Read Aloud, we will also be focusing on the point of view of the author. When we focus on the author’s point of view, we ask ourselves:
  1. Why did the author write the text or passage?
  2. Does the author want to answer, explain, or describe a topic?
- Display the Author’s Purpose chart in the room. Explain to students that people who write books or articles have a point of view. They have an idea or opinion that they want you to learn about through their writing.
- Have students take out Activity Page 2.2 for whole group Read-Aloud. Read aloud and complete the front side of Activity Page 2.2 as a whole group.

## Activity Pages 1.2 and 2.2



**ML/EL**

### MULTILINGUAL/ENGLISH LEARNERS

#### Reading

#### Reading/Viewing Closely

##### Entering/Emerging

Ask students to say whether the statements are true or false. For example, the author wrote the paragraph to explain how to do something, as well as to describe an object, process, or place.

##### Transitioning/ Expanding

Ask students to work in groups to determine if the author is explaining, describing, or answering a question.

##### Bridging

Have students work independently to determine the author’s purpose. Monitor student answers on the activity page.

## PRESENTING THE READ-ALOUD (20 MIN.)

- Tell students that in today's Read-Aloud, they will hear about five groups of animals, and that they should listen to find out the names of these animal groups and why scientists group them as they do. We will also focus on the point of view of the author. We will be pausing during the text to analyze a short passage to determine the author's point of view.
- Write on the board: Listen for five groups of animals, their names, and why scientists group them as they do.



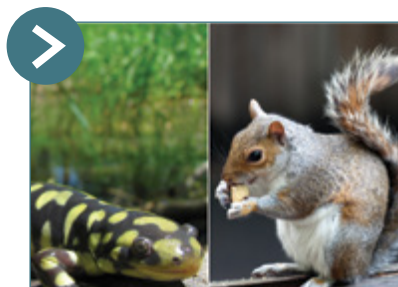
### Show Image 2A-1

#### Rattenborough, animal expert with animals and Earth

Aha! I'm back. Does anyone remember me? It's me, Rattenborough, animal expert and world traveler! We've explored lots of animal habitats together, haven't we? From hot savannas to cold arctic regions, we've watched hungry carnivores

eat their prey with very sharp teeth while herbivores feast on grasses nearby. Today I've got great fun in store for you! I'm going to present a slide show! But before I do that, I'd like to tell you a little about how scientists understand animals.

Think about all of the different types of animals on Earth—grasshoppers, penguins, rabbits, lions, salmon, turtles, and salamanders are just a few! What other animals can you name? Wow, you know lots of animals! How do you tell them apart? How do you recognize, or identify, them?



### Show Image 2A-2

#### Salamander and squirrel

One way that we make sense of our world is by sorting things into categories, or groups. Look closely at these pictures of a salamander and a squirrel, and notice their **characteristics**. Can you name any ways that a salamander and a squirrel are alike? How are they different? What

other characteristics can you think of to help sort animals into categories?

- Pause to discuss Point of View: Explain that as students listen to the following paragraph they will complete the backside of Activity Page 2.2. They will think about: Why did the author write the passage? and Did the author want to answer, explain, or describe a topic?

## D Differentiation

### Support

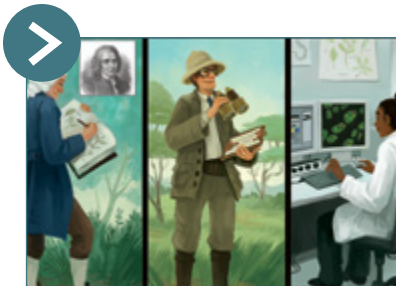
Provide background knowledge around scientist Carolus Linnaeus and his contributions to science. Note that, in addition to his work on zoological taxonomies, he also contributed to unjust ideas that attempted to classify certain racial groups as subspecies of human. Consider the potential sensitivity of this topic, and emphasize that, despite his contributions to modern taxonomy, much of his work should not be celebrated.

## D Differentiation

### Challenge

Ask: How do you think the author feels about animal classification? How do you think the author feels about animal classification?

- » Classifying animals based on their characteristics is good because it was all mumbo-jumbo before.



### Show Image 2A-3

#### Taxonomists: From Linnaeus to today

In the mid-1700s, about 250 years ago, a Swedish man named Carolus Linnaeus [la-nee-us] became fascinated by the many different ways that people all over the world were grouping animals. Some people grouped animals by how they looked, others grouped

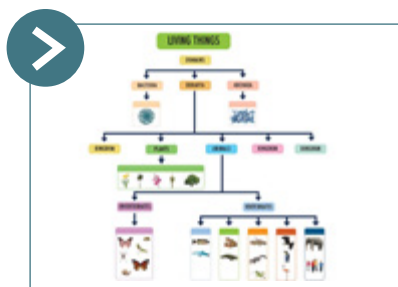
them by their habits and still others by where animals lived. It was all a great mumbo-jumbo, so Linnaeus decided to use their ideas to create a worldwide system to **classify**, or group, animals based on their shared characteristics. This science of classifying **organisms** is called **taxonomy**. Using new ideas and tools, scientists have continued to study organisms and the ways they are similar and different. Over time, ideas about how to classify animals have changed somewhat.



### Check for Understanding

Walk around the rooms to monitor student responses on the backside of Activity Page 2.2.

- As a whole group, review student responses.
- Point of view: Why did the author write the passage?
  - Possible student responses: the author wrote the passage to explain why Carolus Linnaeus created a way to classify animals.
- Did the author want to answer, explain or describe a topic?
  - Possible student responses: the author wanted to explain how animals are classified.



### Show Image 2A-4 “Living Things” chart

Scientists currently recognize three domains of living organisms based on important parts within their cells: Archaea, Bacteria, and Eukarya. Scientists generally agree that organisms classified under the Eukarya domain are divided into **kingdoms**, the main

groups into which living organisms have been further classified. Plants and animals are the two kingdoms that I know the most about, and today I’m here to talk to you about my favorite one! That’s right—the animal kingdom!

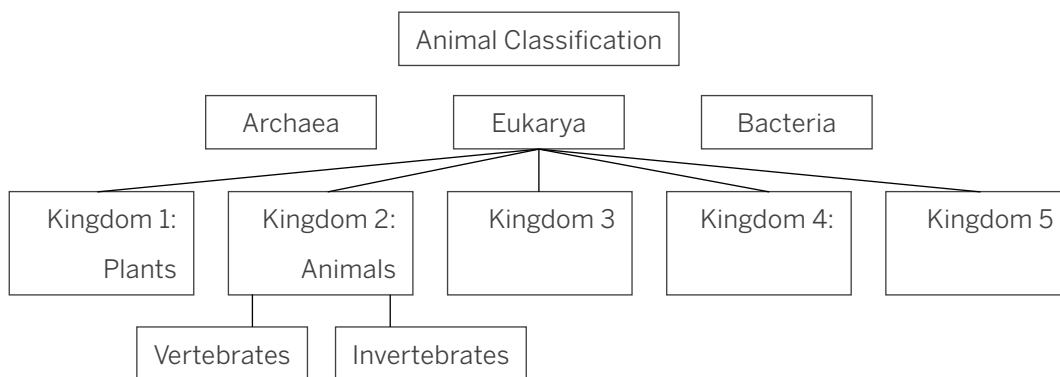
Taxonomists identify animals by their characteristics, or special features that set them apart from others. They divide the five animal kingdoms into smaller and smaller groups, with each smaller group having more and more in common with one another. Each group has a specific name. For example, you and I not only belong to the same kingdom—the animal kingdom—but we both belong to the same phylum [fy-lum]—the phylum known as *chordata*—because we share similar body characteristics.

## D Differentiation

### Support

Draw a picture on the board representing the five kingdoms.

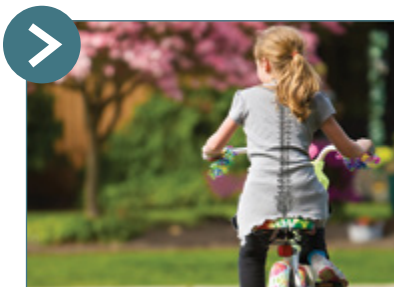
See diagram to the right.



- Tell students that they are going to write an appositive for a noun in a sentence. Explain that an appositive is a noun or phrase that renames or describes another noun. Display the following sentence:
  - An eagle’s habitat, a place where they live and grow, is in trees near water.
- Tell students that the phrase “a place where they live and grow” is an appositive because it describes a habitat.



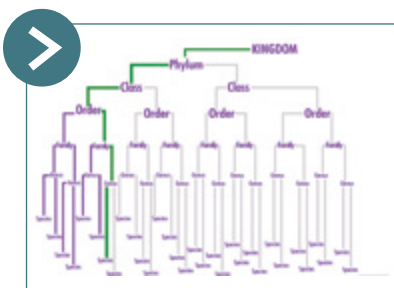
- **Write-Pair-Share:** Display the following sentence:
  - Two types of kingdoms are plants and animals.
- Have students write an appositive for the underlined noun. After writing, tell students to share their writing with a partner. Remind students to signal when both partners have contributed to the conversation.
  - » Answers may vary but could include “Two types of kingdoms, the major groups that all living things are classified into, are plants and animals” or “Two types of kingdoms, the main taxonomy groups that all living organisms belong to, are plants and animals.”



### Show Image 2A-5 Child's spine

Most animals in the phylum chordata are **vertebrates**. A vertebrate has a backbone. Do you have a backbone? Yes, you do. And so do I! That is one of our common characteristics, one of the ways that scientists group us to show relationships

between us. My backbone is smaller than yours, because I'm much smaller. But if you look closely at this image, you can see how similar the bones are!



### Show Image 2A-6 Taxonomy diagram

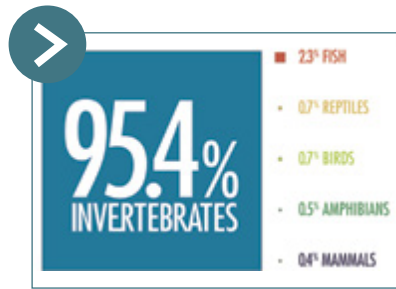
Vertebrates belong to the animal kingdom and are in the phylum *chordata*. This phylum is divided into even more groups called classes. A class is divided into smaller groups called *orders*. An order is divided into smaller groups called *families*. A family is divided into

smaller groups, each called genus. And a genus is divided into even smaller groups called species. There are many, many species within each group!

## D Differentiation

### Challenge

Have students research and create a taxonomy diagram.



### Show Image 2A-7

#### Invertebrate and Vertebrate Graphic

Now that you know that a vertebrate is an animal with a backbone, what do you think an invertebrate is? Yes, that's correct! An invertebrate is an animal with no backbone!

A little more than 95 percent of all animals on Earth are invertebrates. Think about it: more than 95 percent of all the species of animals on Earth are invertebrates—that's a lot! And most of them are fairly small.

Fewer than 5 percent of all animal species are vertebrates. That means that you and I, and all vertebrates, belong to a very small percentage of all the animals on Earth! Mammals—that includes all humans—are literally just a speck!



### Show Image 2A-8

#### Rattenborough's Scrapbook Page, "Vertebrate Animals Around the World"

Now that you've heard a little about how taxonomists sort animals into categories, I'm ready to begin the slide show of my world-wide travels, and I'm going to teach you all

kinds of amazing things about animals. I met the most wonderful new animal friends while I traveled the globe, and so throughout this domain, I will show you my slides so that you can meet them, too! They represent five vertebrate groups of animals. As they are introduced, remember to think about how a scientist might classify each one of my new friends. How is each one like you and how is each one different from you?

Here's Paolo [pow-lo] Piranha from Colombia. This is Tabitha Toad from Brazil. Here's Anna Anaconda from Peru. This is Ebenezer [eb-uh-nee-zer] Egret from South Africa. And meet Hilda Hippo from Tanzania. Please welcome Paolo, Tabitha, Anna, Ebenezer, and Hilda to your classroom. They are going to appear from time to time in my slides as you learn about the five vertebrate groups of animals. Be sure to keep a sharp eye out for them—you never know when one of them might turn up!

Aren't they a handsome bunch? They all belong to the animal kingdom like you and me. And, they are like us in another way: they all have backbones.

Now, things get tricky. We are all animals and we are all vertebrates, but we are not all the same, are we? Heavens, no! We have lots of differences as well. You and I belong to the class, or group, called mammals. What makes mammals different from other classes of animals is that they have fur or hair, and the mothers give birth to live babies and feed their babies with the milk their bodies produce. You will learn more about these and other characteristics of mammals another day.

My friend Hilda Hippo is indeed a mammal, even though it is hard to see the little bit of hair around her mouth and on the tips of her ears and tail. When I was in Tanzania, Hilda and I had a visit with a proud new mother hippopotamus! Look at her with her baby.

So, I'm a mammal, you're a mammal, and Hilda is a mammal. But my other friends have different classifications. One of them is in the reptile class—a scaly creature that likes to warm itself in the sunshine— Anna Anaconda! Isn't she beautiful? She's one of the largest snakes in the world. Though she is not poisonous, her strong muscles help her constrict, or squeeze, her prey!

Another of my friends is an amphibian, which means that she lays eggs and lives both in and out of water. Most animals in the amphibian class have smooth, wet skin, but my friend's skin is rather dry and leathery. Who is she? Right again—Tabitha Toad! She looks a lot like her close relative, the frog, doesn't she? Her skin helps protect her as it is camouflaged, or able to blend into the environment.

My last two friends should be easy to classify because their classification names are much more common to all of us. Which one of my friends is a member of the bird class? Yes—Ebenezer Egret! Ebenezer is a warm-blooded vertebrate with feathers.

Paolo Piranha is the last of my friends to be classified today. Which group does Paolo belong to? Paolo Piranha is a fish. He has fins and gills, and lives in water. Piranhas, though small, are thought by many to be dangerous because of their very sharp teeth. Don't worry. Paolo, like many other piranhas, usually feeds on dead and injured wild animals.

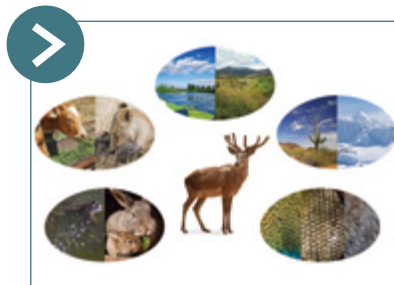
Taxonomists believe that all of the vertebrate animals on Earth can be classified into one of these five animal groups—fish, amphibians, reptiles, birds, and mammals. In the fish group, there are three different fish classes; fish also have the largest number of species among vertebrates. Even though there are more than 60,000 known species of vertebrates on Earth, there are nearly a million and a half invertebrates—and a million of those are insects!



### **Show Image 2A-9** **Unexplored Places on Earth**

Scientists continue to discover thousands of new insect species each year. How can this be? It's because there are still unexplored areas of the Earth—far into the rainforests, inside the cold ice of glaciers, within the hot lava of volcanoes, and deep down in

the ocean. Perhaps one day *you* will discover new animals yourselves, examine and classify them by their different characteristics, and add to our understanding of taxonomy.



### **Show Image 2A-10** **Classification questions**

Let's think about what you've learned today. Scientists classify organisms, including animals, in order to show relationships between them. Animals are classified by common characteristics. Vertebrate animals have backbones, whereas invertebrates do

not. Some are warm-blooded, whereas others are cold-blooded. We will learn more about warm-blooded and cold-blooded animals in other readings and Read-Alouds.

Let's think about other ways that scientists might classify animals. It is important to consider where animals live—their habitats. Do they live in water or on land? Do they live in warm climates or cold climates? What covers their bodies—feathers or scales, fur or hair? Do they lay eggs or do they give birth to live creatures that look like smaller versions of themselves?

What kinds of food do they eat—plants, animals, or both? These are all important questions for taxonomists to ask as they work to group animals into categories that are easily studied.

In the upcoming Read-Alouds, you will learn much more about how animals are classified. Next time, we will pick up with the slide show so that I can teach you about the groups of animals to which Tabitha Toad, Anna Anaconda, and Paolo Piranha belong. Can anyone make a prediction about which of my friends are warm-blooded animals like me? Well, you'll have to wait until next time to see if you are right!

---

### DISCUSSING THE READ-ALOUD (15 MIN.)

- Timed Activity (10 min): Point to the chart papers posted around the room. Explain that each chart paper lists one of the animals discussed in the passage. With a pencil, students will move from chart paper to chart paper and add additional information they learned about each animal.
- As a whole group, review the information listed on the animal charts (5 min.).

Teacher note: Ensure that the charts have correct information listed for each animal. Students should have classified the animals as amphibian, mammal, bird, fish or reptile. They should also include that they are vertebrates, and have backbones.

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### WORD WORK: *CLASSIFY* (5 MIN.)

- In the Read-Aloud you heard, "... [the scientist] Linnaeus decided to use [people's] ideas to create a worldwide system to *classify*, or group, animals based on their shared characteristics."
- The word *classify* means to sort or group animals or things according to common characteristics.
- In order to organize, study, and compare animals, scientists classify them by their common or shared characteristics.
- Have you ever had to classify something? What was it? If not, can you imagine something that you might have to classify this school year? Be sure to use the word *classify* when you tell about it.
- Ask two or three students. If necessary, guide and/or rephrase the students' responses to make complete sentences: "I have had to classify ..."

- What's the word we've been talking about? What part of speech is the word *classify*?

» *classify*; verb

- **Use a Making Choices activity for follow-up.** Directions: I will name a person. I want you to think about what types of things this person may classify in their job. For example, if I say, "teacher," you might say, "The teacher may classify students into groups according to what color they are wearing."

1. A grocery store worker

» A grocery store worker may classify the food in the grocery store.

2. A librarian/media specialist

» The librarian/media specialist may classify the books, magazines, and videos in the library.

3. An astronomer

» An astronomer may classify the stars, planets, comets, and galaxies in the universe.

4. A musician

» A musician may classify sheet music, instruments, and composers.

5. A mail carrier

» A mail carrier may classify zip codes, letters, and packages.

## Lesson 2: Classifying Animals

# Language



**Primary Focus:** Students will identify subject pronouns and pronoun antecedents. [L.3.1f]

### GRAMMAR: SUBJECT PRONOUNS AND PRONOUN ANTECEDENTS (20 MIN.)

#### Introduce Subject Pronouns and Pronoun Antecedents

- Direct students' attention to the Subject Pronouns Poster and the Pronouns and Pronoun Antecedents poster you created and displayed in advance.

#### Subject Pronouns

A *pronoun* is a part of speech that takes the place of a noun. Every pronoun refers to a specific noun. When a pronoun is the subject of the sentence, it is called a subject pronoun.

- Display the following sentence:
  - He grabbed the bat and walked to home base.
- Tell students that the word *he* is a pronoun in the sentence.

#### Pronouns and Pronoun Antecedents

**Pronouns** are words that take the place of nouns.

**Pronoun antecedents** are the words to which the pronouns refer. Pronouns and their antecedents must agree in number and gender.

- Ask students to name subject pronouns they learned in an earlier lesson.
  - » I, you, he, she, it, we, you, they
- Read the following sentences and have students identify the subject pronouns.
  1. She and I play on the same team.
    - » she, I
  2. It rained last night so we didn't play the baseball game.
    - » we

3. You should go with John to the game.

» you

- Ask students if in these sentences a reader can tell who the pronouns refer to. In other words, ask students, “Who is *she* in ‘She and I play on the same team’?”
  - » You can’t tell because there is not enough information.
- Ask, “Who are *we* in ‘It rained last night so we didn’t play the baseball game’?”
  - » You can’t tell because there is not enough information.
- Ask, “Who is *you* in ‘You should go with John to the game’?”
  - » You can’t tell because there is not enough information.
- Tell students that in sentences where the reader can identify the noun that the pronoun refers to, that noun is called the pronoun antecedent.
- Read the following sentences and have students identify the pronouns.
  1. Sam lost the game and he was upset.
    - » he
  2. Nina and Nora won the game and they were thrilled.
    - » they
- Ask, “In the first sentence, who does the pronoun *he* refer to?”
  - » Sam
- Tell students that *Sam* is the noun *he* refers to in the sentence (pronoun antecedent).
- Ask, “In the second sentence, who does the pronoun *they* refer to?”
  - » Nina and Nora
- Tell students that *Nina* and *Nora* are the nouns *they* refers to in the sentence (pronoun antecedents).

### Agreement in Number

- Tell students that a pronoun and its antecedent must “agree” in number, which means that in a sentence, a pronoun and the noun the pronoun refers to (its antecedent) must both be either singular or plural.



- Read the following sentences aloud and ask students which is correct.
  1. Dave and Donna were happy that they were going to the movies.
  2. Dave and Donna were happy that he was going to the movies.
- Ask, “What is the subject of both of the sentences?”
  - » Dave and Donna
- Ask, “Is the subject of the two sentences singular or plural?”
  - » plural
- Ask students to find the pronoun in each sentence.
  - » they, he
- Ask, “Which pronoun, *they* or *he*, is a plural pronoun?”
  - » they
- Ask, “Which sentence is correct because it agrees in number? That is, which sentence has both plural pronouns and plural nouns the pronouns refer to?”
  - » The first one, because the pronoun *they* is plural and Dave and Donna is plural.
- Read the following sentences and pronoun choices. Ask students to choose the correct pronoun and explain their choice.
  1. Princess, my kitten, won the hearts of all because\_\_\_\_\_ is so cute. *She* or *they*?
    - » *She*, because *Princess* and *she* are both singular.
  2. Zachary and Tom are brothers and\_\_\_\_\_ like to play chess together. *He* or *they*?
    - » *They*, because *Zachary and Tom* and *they* are both plural.
  3. My cousins and I are so sad because\_\_\_\_\_ aren't tall enough to get on the ride at the park. *It* or *we*?
    - » *We*, because *my cousins and I* and *we* are both plural.
  4. The new book in the library is so exciting that the whole class is talking about\_\_\_\_\_. *They* or *it*?
    - » *It*, because *book* and *it* are both singular.

- Point out to students that in each sentence, the correct pronoun was either singular or plural to match the noun(s) it referred to (its pronoun antecedent).

## Agreement in Gender

- Tell students that a pronoun and its antecedent must “agree” in gender, which means that in a sentence, a pronoun, and the noun it refers to (its antecedent) must both be either masculine (male) or feminine (female).
- Read the following sentences to students and ask which they think is correct.
  1. Mr. William is a duck and he is yellow.
  2. Mr. William is a duck and she is yellow.
- Ask, “What is the subject of both of the sentences?”
  - » William
- Ask, “Is William a boy duck or a girl duck?”
  - » boy
- Ask students to find the pronoun in each sentence.
  - » he, she
- Ask, “Which sentence is correct because it agrees in gender? In other words, which sentence has both the noun *William* and the pronoun *he*, referring to a boy duck?”
  - » the first one
- Read the following sentences and pronoun choices. Ask students to choose the correct pronoun.
  1. Ms. Lisa loves her new bicycle and rides it every day. *She* or *he*?
    - » *She*, because *Lisa* and *she* are both girls.
  2. My brother Tom received a present and opened it quickly. *She* or *he*?
    - » *He*, because *Tom* and *he* are both boys.
- Point out to students that in each case, the correct pronoun refers to either a boy or a girl (masculine or feminine) to match the pronoun antecedent.

## Reciprocal Pronouns

- Tell students that there are two pronouns that are used to show an action that is being performed by two or more individuals, each on the other and doing the same thing.
- Write *each other* and *one another* on the board.
- Read the following sentences aloud:
  - Toni and Debra competed against each other.
  - The girls were playing with one another.
- Explain to students that a quick way to know which one to use is to look at the antecedent. If the antecedent is two things (like Toni and Debra) use *each other*. If the antecedent is three or more things (girls in the sentence above could be more than two) then use *one another*.
- Have students turn to Activity Page 2.3 and complete it as a teacher-guided activity.

End Lesson

## Lesson 2: Classifying Animals

# Take-Home Materials

- Have students complete Take-Home Page 2.1.

### Activity Page 2.3



### D Differentiation

#### Support

Complete Activity Page 2.3 as a teacher-guided activity.

### Take-Home Page 2.1



## 3

# Vertebrate or Invertebrate?

**PRIMARY FOCUS OF LESSON****Reading**

Students will identify the connection between vertebrates and invertebrates. [RI.3.3]

**Speaking and Listening**

Students will identify the important points from two informational texts on vertebrates and invertebrates. [RI.3.9]

Students will demonstrate an understanding of the Tier 2 word *spine*. [L.3.4]

**Language**

Students will determine the meaning of words formed when *-ed* or *-ing* are added to a known root word in sentences. [L.3.4a, L.3.4b]

**FORMATIVE ASSESSMENT**

**Activity Page 3.3**

**Compare Two Texts** Identify how two texts are alike and different. [RI.3.9]



**Teacher Presentation Screens:**  
all lessons include slides

## LESSON AT A GLANCE

	Grouping Recommendations	Time	Materials
Reading (50 min.)			
Introducing the Reading	Whole Group	10 min.	<input type="checkbox"/> Vertebrate and invertebrate cards <input type="checkbox"/> Visual Support 3.1 <input type="checkbox"/> chart paper <input type="checkbox"/> <i>Rattenborough's Guide to Animals</i> <input type="checkbox"/> Activity Page 3.1
Whole Group Reading	Whole Group	25 min.	
Discussing the Reading	Whole Group	15 min.	
Speaking and Listening (65 min.)			
Introducing the Read-Aloud	Whole Group	5 min.	<input type="checkbox"/> Vertebrate and invertebrate cards <input type="checkbox"/> Activity Pages 3.2, 3.3 <input type="checkbox"/> yellow and orange markers
Presenting the Read-Aloud	Independent	35 min.	
Discussing the Read-Aloud	Whole Group	20 min.	
Word Work: <i>Spine</i>	Whole Group	5 min.	
Language (5 min.)			
Spelling: Blank Busters	Independent	5 min.	<input type="checkbox"/> Activity Page 3.4
Take-Home Material			
Blank Busters			<input type="checkbox"/> Activity Page 3.4

## ADVANCE PREPARATION

### Reading

- Prepare vertebrate and invertebrate cards for each student.

Vertebrate

Invertebrate

- On chart paper, create the following or prepare to display Visual Support 3.1.

### ➤ Visual Support 3.1

Vertebrates or Invertebrates?	
Before Reading	After Reading
Humans Vertebrate: Invertebrate:	Humans Vertebrate: Invertebrate:
Horse Vertebrate: Invertebrate:	Horse Vertebrate: Invertebrate:
Butterfly Vertebrate: Invertebrate:	Butterfly Vertebrate: Invertebrate:
Snake Vertebrate: Invertebrate:	Snake Vertebrate: Invertebrate:
Lobsters Vertebrate: Invertebrate:	Lobsters Vertebrate: Invertebrate:
Goldfish Vertebrate: Invertebrate:	Goldfish Vertebrate: Invertebrate:
Earthworm Vertebrate: Invertebrate:	Earthworm Vertebrate: Invertebrate:

## Speaking and Listening

- Identify the following digital images online at [learning.amplify.com](https://learning.amplify.com) to project during the Read-Aloud: 3A-1–6.

## Language

- Prepare to display Visual Support 2.1. You may create the chart on the whiteboard or chart paper.

### ➤ Visual Support 2.1

Parts of Speech	
<b>Nouns</b> are words that name people, places, or things.	
Common nouns are general and are not capitalized.	Proper nouns are specific and are capitalized.
<b>Verbs</b> are words that show action.	
<b>Adjectives</b> are words that describe nouns.	

## Universal Access

- In this lesson, students will also read “Vertebrate or Invertebrate?” Prepare them to engage with the content by doing/setting up the following:
  - Review with students key vocabulary from the text: *vertebrate* and *invertebrate*.
  - Show students pictures of the following images: human, horse, butterfly, snake, lobster, goldfish, and earthworm. Have a discussion about the pictures and ask students if they think each image is an example of a vertebrate or invertebrate.
- In this lesson, students will listen to the Read-Aloud, Vertebrate Animals. Prepare students to engage with the content by doing/setting up the following:
  - Define the following: compare (alike) and contrast (different).
  - Ask students how two items are alike and different. How are water and soda alike? How are they different?
  - Practice pronouncing the following vocabulary words: *vertebrates* and *invertebrates*.
- To ensure that all students have the opportunity to contribute during Turn and Talk and Think-Pair-Share exchanges, provide students with a signal such as folding their hands or raising a hand to indicate when both partners have added to the conversation.



## Lesson 3: Vertebrate or Invertebrate?

## Reading



**Primary Focus:** Students will identify the connection between vertebrates and invertebrates. [RI.3.3]

## VOCABULARY FOR READING

- The following are vocabulary words used in this lesson. Preview the words with the students before the lesson and refer back to them at appropriate times. The words also appear in the glossary in the back of the student reader.

**spine, n.** backbone

**vertebrates, n.** animals that have a backbone

**invertebrates, n.** animals that do not have a backbone

Vocabulary Chart for “Vertebrate or Invertebrate?”

Type	Tier 3 Domain-Specific Words	Tier 2 General Academic Words
Vocabulary	vertebrate invertebrate	spine
Spanish Cognates	vertebrado invertebrado espina	
Multiple-Meaning		spine
Sayings and Phrases		

## INTRODUCING THE READING (10 MIN.)

- Vertebrate or Invertebrate Quiz: Pass out the vertebrate and invertebrate cards to each student. Explain that the teacher will call out an animal. Students will have to decide if they think the animal is a vertebrate or invertebrate. The teacher will record the student responses on the chart paper titled, “Vertebrate or Invertebrate?” in the Before Reading column.  
**Note:** The teacher will record the number of students that selected vertebrates and invertebrates on the chart.

- Refer to the previously created chart or display Visual Support 3.1.

### ➤ Visual Support 3.1

Vertebrates or Invertebrates?	
Before Reading	After Reading
Humans Vertebrate: Invertebrate:	Humans Vertebrate: Invertebrate:
Horse Vertebrate: Invertebrate:	Horse Vertebrate: Invertebrate:
Butterfly Vertebrate: Invertebrate:	Butterfly Vertebrate: Invertebrate:
Snake Vertebrate: Invertebrate:	Snake Vertebrate: Invertebrate:
Lobsters Vertebrate: Invertebrate:	Lobsters Vertebrate: Invertebrate:
Goldfish Vertebrate: Invertebrate:	Goldfish Vertebrate: Invertebrate:
Earthworm Vertebrate: Invertebrate:	Earthworm Vertebrate: Invertebrate:

- Tell students that today we will be reading and listening to passages about vertebrates and invertebrates.
- Write *vertebrate* and *invertebrate* on the board. From *vertebrate*, draw a line and write “an animal with a backbone.” From *invertebrate*, draw a line and write “an animal without a backbone.” Explain that many times, scientists refer to a backbone as a spine.
- Explain that throughout the reading, they will write key concepts and animals on their vertebrate and invertebrate cards. Students will use these notes to help them determine if the animals on the chart paper are vertebrates or invertebrates.

Chapter

# 3 Vertebrate or Invertebrate?



Rattenborough, here again! You have learned that scientists who study the animal **kingdom** **classify** animals into different groups, based on different **characteristics**. Some **characteristics** scientists study are:

- what makes up the animal's skin, such as hair or **scales**
- whether animals give birth to live babies or lay eggs
- whether mothers feed their babies milk from their own bodies
- whether animals are **warm-blooded** or **cold-blooded**



Scientists **classify** living things by different **characteristics**, such as what is on their skin, if they lay eggs or have live babies, how they feed their babies, and whether they are **warm-blooded** or **cold-blooded**.


20

21

## WHOLE GROUP READING (25 MIN.)

### Pages 20–21

- Read the title of the chapter together as a class, “Vertebrate or Invertebrate?”
- Ask students, “Where in the Reader could we find the definition for vertebrate quickly?”
  - » the glossary
- Have students read the caption and look at the images on **page 21**.
- Ask: “Looking at the pictures and caption, what information can we gain from these text features?”
  - » We learn that scientists classify living things by different characteristics.

- Ask students to read **pages 20–21** to themselves.
-  **Think-Pair-Share:** Ask, “How do the photos and caption support the text?” Tell students to use evidence from the text to support their answer. Remind students to signal when both partners have contributed to the conversation.
  - » The text states that scientists classify animals by their skin, how they give birth, how and what mothers feed their babies, and whether they are warm- or cold-blooded. All of the photos show pictures of each of the ways animals are classified.

Another key **characteristic** that scientists study is whether animals have a backbone. Animals that have a backbone are called **vertebrates**. Humans are **vertebrates**. Place your hand on the back of your neck until you feel a bump. Now, rub your hand up and down the middle of your back. Do you feel bumpy bones that run in a row down your back, from your neck down to your waist? That's your backbone. Another name for a backbone is a **spine**.

The backbone or **spine** wraps around and protects an important part of your body called the spinal cord. The spinal cord is a bundle of nerves. Messages travel up and down your spinal cord from your brain to other parts of your body. This is the way that your brain sends signals telling the other parts of your body what to do.



*Humans have a backbone and are classified as **vertebrates**.*

22

23

## Pages 22–23

- Have students read the caption and look at the image on **page 23**. Have students feel the series of bones in their back that make up their backbone or spine.
- Ask students to read **pages 22–23** to themselves and record any important information on their vertebrate or invertebrate cards.
- When students are finished reading, have them share the important information they wrote on their cards.



### Check for Understanding

If students did not identify the backbone/spine as being a connection to vertebrates, then reread the first paragraph aloud and highlight the sentence: Animals that have backbones are called vertebrates.

Many other animals also are **vertebrates**. All **mammals**, **reptiles**, fish, and birds have a backbone, so they are all **vertebrates**. They have some type of spinal cord, too.

Animals with a backbone come in all different shapes and sizes. Apes, rhinos, horses, rabbits, bats—and yes, rats and humans, too—are all **mammals** and **vertebrates**. Lizards, turtles, snakes, and crocodiles are **reptiles** and **vertebrates**. Huge sharks and tiny goldfish are also **vertebrates**. Small hummingbirds and large eagles are **vertebrates**, too.

But there are many more animals that do not have a backbone. Animals without a backbone are called **invertebrates**. Insects are the largest group in the animal **kingdom**. Insects are also the largest group of **invertebrates**. Insects include flies, wasps, beetles, cockroaches, ladybugs, and butterflies. Other kinds of **invertebrates** include earthworms and spiders.

Some interesting **invertebrates** live in the sea. Lobsters, shrimp, and crabs do not have a backbone. The giant octopus is an **invertebrate** as well. Have you ever seen a jellyfish or a starfish? They are also **invertebrates**. So, these animals do not have a backbone or spinal cord.

## D Differentiation

### Challenge

Have students categorize the vertebrate animals they listed by another characteristic (mammals, reptiles, fish, and birds).

### Support

Pair up with students who have difficulty identifying vertebrate animals. Assist the students in going back into the text to find the animals.

## Pages 24–25

- Explain to students that as the text is read aloud, they will need to record five examples of vertebrates on their vertebrate card.
- Read aloud **page 24**.
- Ask students to share with a partner the five examples of vertebrates they recorded on their vertebrate card.
  - » Students may choose among apes, rhinos, horses, rabbits, bats, rats, humans, lizards, turtles, snakes, crocodiles, sharks, goldfish, hummingbirds, and eagles.
- Explain to students that as the text is read aloud, they will need to record five examples of invertebrates on their invertebrate card.
- Read aloud the first paragraph on **page 25**.
- Ask students to share with a partner the five examples of invertebrates they recorded on their invertebrate card.
  - » Students may choose among flies, wasps, beetles, cockroaches, ladybugs, butterflies, earthworms, and spiders.

## DISCUSSING THE READING (15 MIN.)

- **Write-Pair-Share:** Have students take out paper. Display the following sentences about vertebrates:
  - Vertebrates have backbones.
  - Mammals are vertebrates.
  - Amphibians are vertebrates.
  - Birds are vertebrates.
  - Fish are vertebrates.
  - Reptiles are vertebrates.
- Explain that they will combine these sentences into one sentence with the same meaning. After writing, tell students to share their writing with a partner. Remind students to signal when both partners have contributed to the conversation.
  - » Answers may vary but could include “Mammals, amphibians, birds, fish, and reptiles are vertebrates because they all have backbones” or “Mammals, amphibians, birds, fish, and reptiles have backbones, so they are vertebrates.”
- Go back to the chart used at the beginning of the lesson. Explain to students that the animals on the chart will be called out again. Students must decide if the animal is a vertebrate or invertebrate. Students may also use their notes from their cards to help them classify the animals.

**Note:** The teacher will record the number of students that selected vertebrates and invertebrates on the chart.

- As a whole group, complete Activity Page 3.1.

### Activity Page 3.1



<div> <div>ML/EL</div> <div> <b>MULTILINGUAL/ENGLISH LEARNERS</b>  <b>Reading</b>            Reading/Viewing Closely         </div> </div>	
<b>Entering/Emerging</b>	Students should complete this activity page in small groups. Have them explain why they think vertebrates and invertebrates are alike and different. Help them show you where they can confirm their answer in the text.
<b>Transitioning/Expanding</b>	Have students complete the activity page in partners or small groups. Prompt them to ask each other how and why vertebrates and invertebrates are alike and different.
<b>Bridging</b>	Observe that students are able to complete the activity page independently.



### Check for Understanding

If students are having difficulty making connections between vertebrates and invertebrates, then find pictures of various animals and have students classify them as vertebrates or invertebrates.

## Lesson 3: Vertebrate or Invertebrate?

# Speaking and Listening



### Primary Focus

Students will identify the important points from two informational texts on vertebrates and invertebrates. [RI.3.9]

Students will demonstrate an understanding of the Tier 2 word *spine*. [L.3.4]

### VOCABULARY FOR “VERTEBRATE ANIMALS”

- The following are core vocabulary words used in this lesson. Preview the words with students before the lesson. Students are not expected to be able to use these words immediately, but with repeated exposure throughout the lessons, they will acquire a good understanding of most of the words. Students may also keep a “unit dictionary” notebook along with definitions, sentences, and/or other writing exercises using these vocabulary words.

**column, n.** a set of objects arranged in a vertical, or up and down, arrangement; a supporting base

**exoskeleton, n.** the tough, rigid outer covering that invertebrate animals have for protection and to keep their bodies from drying out

**nerves, n.** parts of the body that send messages to and from the brain through the spinal cord

**spine, n.** backbone

**vertebrates, n.** animals that have a backbone



### Vocabulary Chart for “Vertebrate Animals”

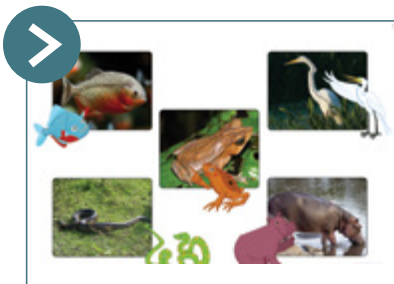
Type	Tier 3 Domain-Specific Words	Tier 2 General Academic Words
Vocabulary	exoskeleton nerves vertebrate	column
Multiple-Meaning		column spine
Sayings and Phrases		

### INTRODUCING THE READ-ALOUD (5 MIN.)

- Ask: “What is classification?”
  - » A classification is a grouping together of things based on how they are alike and the separating of things based on how they are different.
- Explain that students are going to listen to a text that focuses on vertebrate animals. Students will add additional notes to their vertebrate and invertebrate cards from earlier in the lesson. After listening to the text, they are going to determine the main point and supporting details of passages from the reading and Read-Aloud selections.

### PRESENTING THE READ-ALOUD (35 MIN.)

- Say: “During the Read-Aloud of the first paragraph, listen for the most important point.”



#### Show Image 3A-1 Animals and Their Spines

Hello, everybody. Rattenborough, world traveler and presenter of animals, back for another exciting day of slide show and tell! Remember my friend Hilda the Hippo? We are actually like her. Do you know how? We are all vertebrates. That’s right—vertebrates

have backbones. And animals without backbones are called *invertebrates*. Because you and I are both vertebrates, we’ll talk about vertebrates first. Let’s take a look at the hippopotamus.



### Check for Understanding

What is the important point from the first paragraph in the Read-Aloud?

- » Vertebrates have backbones and invertebrates do not.

## D Differentiation

### Support

Review the five animal species with backbones: reptiles, amphibians, fish, mammals, and birds.

## D Differentiation

### Support

Tell students to add note to their vertebrate or invertebrate note card during the next part of the read aloud.

### Support

What additional information did you add to your vertebrate note card?

- » Some animals have lighter and more bendable cartilage instead of hard bone.

When you look at the outside of an animal, you can't see the backbone because it is on the inside. But sometimes you can tell where the backbone is. Under a vertebrate's skin, there is a ridge. This is the backbone, or **spine**, that starts near its head and runs all the way down its back to its tail. Find your backbone again. Remember those bumpy bones? Each bump you feel is a separate **vertebra**. They form a row from your neck all the way down your back to your tailbone. Your spine serves a very important purpose. Your spine protects your spinal cord, that large bundle of **nerves** that sends messages from your brain to every part of your body.

Let's look at the backbones of the five animal species to which my five friends belong. We've seen that a hippopotamus has a backbone. Next let's look at one of Ebenezer's fellow egrets. Its backbone, or spinal **column**, helps it hold its head up high and protects its spinal cord. Like all egrets, Ebenezer could not live without his backbone. All birds have backbones, or vertebrae.

Snakes don't look like they have backbones, do they? Even though snakes **slither**—or slip and slide along—they absolutely *do* have backbones! A snake's vertebrae, like Anna Anaconda's, run the length of its body and swing low to the ground as its muscles help it move along the ground or climb up trees. A pair of ribs is attached to each vertebra, protecting the body parts inside the snake's body. All reptiles have backbones. So, you can't always tell from the outside whether an animal is a vertebrate with a spine (backbone), or whether it's an invertebrate.

How about fish? Would you say fish have backbones? The answer is yes! All fish have backbones, just as reptiles, birds, and mammals do. It's very tricky to see, but if you took an x-ray of its body, you would see that all the other tiny bones that make up the skeleton of the fish are connected to its spine. Paolo told me that even though all fish have backbones, some fish—like sharks and stingrays—have backbones that are made of lighter and more bendable **cartilage** instead of hard bone, allowing them to be more flexible and travel more quickly.

That leaves amphibians. Take a look at my animal friends one more time; pay close attention to the toad next to Tabitha. It's hard to tell when you look at

a toad's body that there is a backbone inside! Now tell me—do toads have backbones? Yes, to be sure, they certainly do! Toads are vertebrates, too! All amphibians have backbones! That means that all five of the animals you've seen today are vertebrates. They all have backbones. The question I'm going to present to you, students, is this: Do all animals on Earth have backbones?

What are your predictions? We know that mammals—which include hippopotami, me, you, birds, fish, reptiles, and amphibians—are all vertebrates, too. Have we covered all the animal groups on Earth? Aha! Trick question! If you said no, your predictions were correct.



### Check for Understanding

Ask students what they recall about insects from the Reader.

Do you remember if there are more vertebrates or more invertebrates on Earth? Good ideas! Look at this image that I shared with you earlier. Remember, more than 95 percent of all animal species are invertebrates, and insects are the biggest group of invertebrates. And there are still so many invertebrates yet to be discovered and classified!

As you can see in the image, vertebrates are actually only a teeny tiny group here on Earth. Because we tend to think and talk mostly about vertebrates, we sometimes forget that most of the animals in the world are actually invertebrates—and most of those are insects!

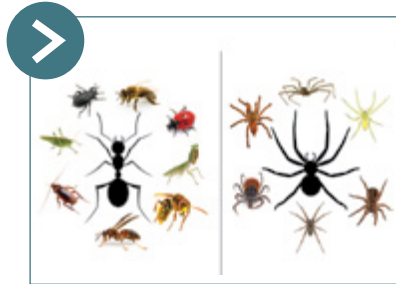


### Show Image 3A-2 Insects

Think how many insects there must be on our planet! They make up three-quarters of all the species in the animal kingdom! Can you name a few of the many animals in the insect group? Flies, wasps, beetles, cockroaches, ladybugs, and butterflies are all insects. There

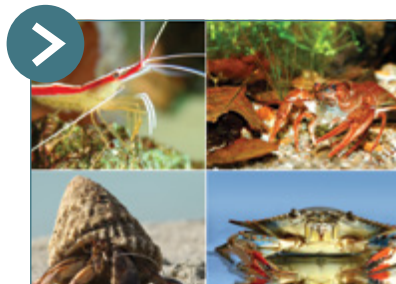
are surely a lot more species of insects than there are species of amphibians, mammals, birds, fish, and reptiles all put together!

Even though insects are by far the largest group of invertebrates, they are not the only invertebrates. Here's another question for you to think about. Close your eyes and pretend you are a taxonomist for a moment. Can you think of any other animals without backbones? Here's a hint: instead of internal vertebrae, these animals have an external, or outer, hard body covering.



### Show Image 3A-3 Insects and Arachnids

The largest group of invertebrates is made up of arthropods. Insects make up the largest group of arthropods. Another large group of arthropods includes arachnids. Spiders are arachnids, and so are ticks, daddy longlegs, and scorpions. Insects have six legs and three body parts. The ant in this image has very long antennae—they almost look like legs! In comparison, arachnids have eight legs and two body parts. Instead of having flexible internal skeletons, all of the arthropods wear a tough **exoskeleton**, or protective covering, on the outside. I bet you can recognize some of these common examples of insects and arachnids.



### Show Image 3A-4 Crustaceans

A crustacean is another kind of invertebrate and also a type of arthropod. Crustaceans have exoskeletons and usually live in water. Copepods are the smallest of the crustaceans. They are barely visible, but they are a very important source of food for fish in the ocean. Can anyone think of other animals that are classified as crustaceans? Good ideas! Some of the more common crustaceans include shrimp, lobsters, fiddler crabs, and blue crabs. These animals all have a hard exoskeleton, which protects the body and keeps it from drying out. Have you ever seen a crab? If you eat a blue crab like this one or a lobster, you have to remove its hard exoskeleton to find the tasty meat inside.



### Show Image 3A-5 Other Invertebrates

Snails, jellyfish, and earthworms are also invertebrates. Other spineless creatures include coral, sea anemones, and sea stars. Many invertebrates are small and hidden and may not even seem like animals, but they are

by far the largest group of animals populating the Earth.



### Differentiation

#### Challenge

Have students create a master list of all vertebrates and invertebrates discussed in the reading and Read-Aloud.



### Show Image 3A-6 Classification of a Housecat

What a lot of ways there are to classify animals! The purpose of this classification system is to understand each organism better by the characteristics that make it unique. Vertebrates and invertebrates are two types of animals in the world of taxonomy. It is just one way of


classifying animals, but I think it is a very helpful way, don't you? You and I may not look at all alike, or much like Ebenezer, Tabitha, or Anna, but we have a very distinct similarity to one another. We all have backbones!

Look at this chart that shows how a group of familiar organisms are related to each other. On the top row, you can see a group of living organisms: a housecat, a mountain lion, a tiger, a seal, a turtle, a grasshopper, and a tree. In the next row titled "Kingdom," notice that one of the living organisms is no longer included: the tree. The tree actually belongs to a different kingdom. This row now shows only organisms that are part of the animal kingdom. In the next row, titled "Phylum," the grasshopper is no longer included. All of the rest of the animals represented here are vertebrates, part of the chordata phylum. In looking at the "Class" row, you may notice that the turtle is no longer included. The turtle is in the reptile class, and all of the other animals shown are mammals. In the row labeled "Order," the mouse is not included because it is not a carnivore like the other animals shown. What's true about all the animals in the next row, "Family?" That's right; they are all different types of cats. In the "Genus" row, you can see that the housecat and mountain lion are more closely related than the tiger. And the very last row represents one specific animal, a species of housecat.

This process of starting out with many animals and ending up with just one is called the process of elimination. As we went down the list, we eliminated—or removed—any animals that no longer had anything in common.

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### DISCUSSING THE READ-ALOUD (20 MIN.)

1. **Literal.** What is a vertebrate?
  - » an animal with a backbone
2. **Evaluative.** What is another name for the backbone in vertebrates?
  - » spinal column
3. **Inferential.** Why is the backbone or spinal column of vertebrates so important?
  - » It protects the bundle of nerves—the spinal cord—that carries messages to the brain.
4. **Inferential.** What very large group of animals is not in the vertebrate group?
  - » insects
5. **Evaluative.**  *Think-Pair-Share:* How would your life be different if you did not have a backbone?
  - » Answers may vary, but students may say they might have an exoskeleton, or protective covering, on the outside.
  - Have students take out Activity Page 3.2. Model how to cut and assemble both sides of the foldable. Explain that the front page and back page face away from each other, then fold it along the dotted line. Allow students time to cut and fold their foldable. You may have students use tape or a stapler to finish assembling the foldable.
  - Say: “The foldable will be used throughout the unit to record our findings about the animals listed.”
6. **Literal.** What groups of animals are considered vertebrates?
  - » reptiles, amphibians, fish, mammals, and birds (Have students circle vertebrate or invertebrate on their foldable for each animal listed.)
  - Have students take out Activity Page 3.3 and an orange or yellow marker.

#### Activity Page 3.2



#### Activity Page 3.3



- Teacher Modeling: Read aloud the short passages on the front side. Model finding and highlighting topics that are the same using a yellow marker. Model circling information that is different using an orange marker.
- Independently, have students compare and contrast the two texts. Students will continue to highlight topics that are the same with a yellow marker and topics that are different with an orange marker.
- If time permits, students may begin drawing the animals listed on the front of their foldable. Note: Students may draw any insect, fish, amphibian, reptile, bird, and mammal of their choice.



#### MULTILINGUAL/ENGLISH LEARNERS

### Speaking and Listening

#### Reading Closely

##### Entering/Emerging

Work with a small group and determine if these sentences are alike or different:

- Insects include flies, wasps, beetles, cockroaches, ladybugs, and butterflies.
- Other invertebrates include earthworms and spiders; spiders are arachnids.

##### Transitioning/ Expanding

Provide partners with the same sentences from the Activity Page and determine if they are alike or different.

##### Bridging

Provide students with the same sentences from the Activity Page and independently determine if they are alike or different.



### Check for Understanding

If students could not identify similar and different information in both passages, then have them reread the passages on Activity Page 3.3 and draw a picture to summarize the passages. Have students compare their drawings. What is alike? What is different?



### Differentiation

#### Support

Teacher-led discussion in small groups to complete Activity Page 3.3.

#### Challenge

Students complete Activity Page 3.3 independently.

## WORD WORK: *SPINE* (5 MIN.)

- In the Read-Aloud, you heard, “The . . . spine wraps around and protects an important part of your body called the spinal cord.”
- Say the word *spine* with me.
- A spine is a backbone.
- Scientists can look for an animal's spine to know it's a vertebrate.
- Have you ever seen a spine on an animal? When did you see it? How would you describe it? Be sure to use the word *spine* when you tell about it. (Ask two to three students. If necessary, guide and/or rephrase students' responses to make complete sentences: “I saw a spine on a \_\_\_\_\_ when . . .”)
- What's the word we've been talking about? What part of speech is the word *spine*?

» *spine, noun*

- **Use a Multiple-Meaning Word activity for follow-up.** Tell students that the word *spine* can have different meanings as a noun. Share the following definitions:
  - Meaning 1: spine n. backbone
  - Meaning 2: spine, n. the part of a book where pages and cover are attached
- Read a few sentences aloud to students. Have students listen to the context for clues as to which meaning of *spine* is used. Have them hold up one finger when they think the sentence is an example of Meaning 1, and two fingers if the sentence is an example of Meaning 2.

1. I see the author and illustrator on the spine. (2)
2. My cat's spine is hard and short. (1)
3. My teacher showed us a picture of a crocodile's tail extending from its spine. (1)
4. The spine of my favorite book has a small picture of the main character. (2)



### Lesson 3: Vertebrate or Invertebrate?

# Language



**Primary Focus:** Students will determine the meaning of words formed when *-ed* or *-ing* are added to a known root word in sentences. [L.3.4a, L.3.4b]

#### SPELLING: BLANK BUSTERS (5 MIN.)

- Tell students that they will practice writing their spelling words for the week.
- Tell students to take out Activity Page 3.4.
- Ask all students to read the statement in Number 1 silently and consider the context of each sentence as they determine which word completes the sentence. Have them decide which root word completes the sentence and write the word in the blank. Point out to students that the root words are listed in the box on the worksheet but they may need to use other forms of a root word with *-ed* or *-ing* added. These other words are not listed on the worksheet but are listed on the table displayed in the classroom with this week's spelling words.
- When students have completed Number 1, call on one student to read Number 1 aloud with the blank filled in with the spelling word.
- Discuss the proper spelling of the word in the blank, referencing the table of this week's spelling words. Have students compare their spelling with the spelling in the table. Also, discuss the correct answer to be sure students understand why it is correct.
- Have students finish and complete Activity Page 3.4 for homework.

#### Activity Page 3.4



End Lesson

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**Lesson 3: Vertebrate or Invertebrate?**

# Take-Home Material

Activity Page 3.4

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- Have students complete Activity Page 3.4.



## 4

# Warm- or Cold-Blooded?

## PRIMARY FOCUS OF LESSON

### Speaking and Listening

Students will identify the main idea in passages about warm- and cold-blooded animals. [RI.3.2]

Students will demonstrate an understanding of the Tier 2 word *constant*. [L.3.4]

### Reading

Students will identify supporting details in a passage about warm- and cold-blooded animals. [RI.3.2]

Students will determine the meanings of the words *constant* and *temperature* using clues from sentences in the text. [L.3.4a]

### Writing

Students will write a short reflection about an interesting animal to further research. [W.3.10]

Students will properly capitalize the title for their short reflections. [L.3.2a]

### Language

Students will determine the meaning of words formed when *un-* and *non-* are added to a known root word. [L.3.4b]

## FORMATIVE ASSESSMENT

### Activity Page 4.2

**Warm-Blooded and Cold-Blooded Animals** List statements that refer to warm-blooded or cold-blooded animals. [RI.3.2]

### Activity Page 4.3

**Field Journal** Identify which animal you would want to be and why. [W.3.10, L.3.2a]

### Activity Page 4.4

**Prefixes *un-* and *non-*** Write the correct word in each sentence. [L.3.4b]



**Teacher Presentation Screens:**  
all lessons include slides

## LESSON AT A GLANCE

	Grouping Recommendations	Time	Materials
Speaking and Listening (45 min.)			
Introducing the Read-Aloud	Whole Group	10 min.	<input type="checkbox"/> Activity Page 3.2, 4.1 <input type="checkbox"/> Visual Support 4.1
Presenting the Read-Aloud	Whole Group	20 min.	
Discussing the Read-Aloud	Whole Group	10 min.	
Word Work: <i>Constant</i>	Whole Group	5 min.	
Reading (30 min.)			
Introducing the Reading	Whole Group	5 min.	<input type="checkbox"/> Main Idea and Supporting Details Chart <input type="checkbox"/> <i>Rattenborough’s Guide to Animals</i> <input type="checkbox"/> half sheets of blank paper <input type="checkbox"/> Activity Page 4.2
Presenting the Reading	Whole Group	15 min.	
Discussing the Reading	Independent	10 min.	
Writing (15 min.)			
Field Journal	Independent	15 min.	<input type="checkbox"/> Activity Page 4.3
Language (30 min.)			
Morphology	Whole Group/ Independent	20 min.	<input type="checkbox"/> Activity Page 3.4, 4.4 <input type="checkbox"/> Visual Support 4.2
Spelling	Whole Group	10 min.	
Take-Home Material			
Warm-Blooded and Cold-Blooded Animals			<input type="checkbox"/> Take-Home Page 4.1

## ADVANCE PREPARATION

### Speaking and Listening

- On chart paper create the following or prepare to display Visual Support 4.1.

#### ➤ Visual Support 4.1

##### Main Idea and Supporting Details

###### Main Idea

The main idea is what the text is mostly about.

Clues to Finding the Main Idea:

- “What is the text mostly about?”
- Look at the title.
- Look at the pictures and captions.
- Check the first and last sentence.
- Notice words that are repeatedly used.

###### Supporting Details

These support the main idea.

Clues to Finding Supporting Details:

- facts that tell you more about the main idea
  - details that tell you more about the main idea
- Identify the following digital images online at [learning.amplify.com](https://learning.amplify.com) to project during the Read-Aloud: 4A-1–7.

### Language

- On chart paper create the following or prepare to display Visual Support 4.2.

#### ➤ Visual Support 4.2

##### Prefix

A **prefix** is a syllable placed in front of a root word. Prefixes change the meaning of the root word.

## Universal Access

### Flashcards Matching Game

- Give each small group 12 index cards. Three cards read “warm-blooded.” Three cards read “cold-blooded.” Three cards have photos of warm-blooded animals: dog, bear and bird. Three cards have photos of cold-blooded animals: snake, toad, and crocodile.
- Students must match the photo with the correct card. Teacher circulates and assists if students are struggling to match cards correctly.
- Ask students to define “warm-blooded” and “cold-blooded” on the flashcards. Students can collaborate or work individually on definition.
- To ensure that all students have the opportunity to contribute during Turn and Talk and Think-Pair-Share exchanges, provide students with a signal such as folding their hands or raising a hand to indicate when both partners have added to the conversation.

## Lesson 4: Warm- or Cold-Blooded?

## Speaking and Listening

**Primary Focus**

Students will identify the main idea in passages about warm- and cold-blooded animals. [RI.3.2]

Students will demonstrate an understanding of the Tier 2 word *constant*. [L.3.4]

**VOCABULARY FOR “COLD-BLOODED AND WARM-BLOODED ANIMALS”**

- The following are core vocabulary words used in this lesson. Preview the words with the students before the lesson. Students are not expected to be able to use these words immediately, but with repeated exposure throughout the lessons they will acquire a good understanding of most of the words. Students may also keep a “unit dictionary” notebook along with definitions, sentences, and/or other writing exercises using these vocabulary words.

**cold-blooded, adj.** having a body temperature that changes with the temperature of the environment

**constant, adj.** not changing very much and staying steady and even

**huddle, v.** to crowd or squeeze together in a group

**internal, adj.** on the inside or center of an object or organism

**warm-blooded, adj.** being able to control internal body temperature by making heat within the body and having ways to cool the body down when needed

**Vocabulary Chart for “Cold-Blooded and Warm-Blooded Animals”**

Type	Tier 3 Domain-Specific Words	Tier 2 General Academic Words
Vocabulary	cold-blooded warm-blooded	constant huddle internal
Spanish Cognates		constante interno
Multiple-Meaning		
Sayings and Phrases		



## INTRODUCING THE READ-ALoud (10 MIN.)

- Remind students that in the previous lesson they learned about vertebrates and invertebrates. Ask students what they recall about the lesson.
- Have students take out Activity Page 4.1, “All My Best Friends Represent Vertebrates.” Tell students that this is a fun and easy way to remember the names of the five animal groups that Rattenborough’s good friends belong to. Introduce the mnemonic chorally. Go over what each letter stands for: “A” for Amphibians, “M” for Mammals, “B” for Birds, “F” for Fish, “R” for Reptiles, and “V” for Vertebrates. Explain that the sixth letter and word helps to make this memory aid make sense and names the bigger group the five groups belong to.
- Tell students that today’s lesson will focus on identifying the main idea and supporting details.

### > Visual Support 4.1

- Refer to the previously created chart or display Visual Support 4.1. Read the chart aloud to the class.
- Guess the Main Idea: Explain that during today’s Read-Aloud, students are going to listen for the main idea. However, before listening to the Read-Aloud, the class will play a game called “Guess the Main Idea.” Explain that students will be given one clue at a time. After each new clue is given, students may guess the main idea.
  - **Mystery Main Idea 1**
    - I am a vertebrate.
    - I swim in fresh water and salt water.
    - I move around using my fins and breathe oxygen through my gills underwater.
      - » Answer: fish
  - **Mystery Main Idea 2**
    - I am an invertebrate.
    - I have a red shell with black spots.
    - I sometimes find my way into your house.
      - » Answer: ladybug

## Activity Page 4.1



### ◦ Mystery Main Idea 3

- I am a vertebrate.
- I slither along the ground and climb up trees.
- I have a pair of ribs attached to my vertebra.

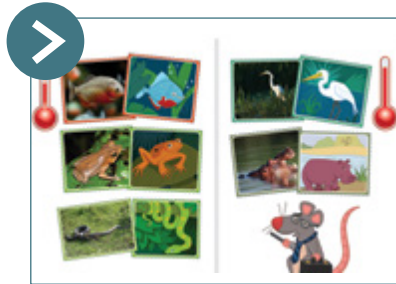
» Answer: snake

- Explain that all the clues given, or supporting details, were about the main idea.
- Purpose for Listening: Tell students that we will be listening to the Read-Aloud and determining the main idea.
- Have students take out Activity Page 3.2 (foldable from Lesson 3) to fill in during the Read-Aloud.

### Activity Page 3.2



### PRESENTING THE READ-ALOUD (20 MIN.)



#### Show Image 4A-1

#### Rattenborough's scrapbook page, "Vertebrate Animals Around the World"

Hi, everyone. I have brought along my slide show once again. Today we're going to look at slides of my friends, some of whom are **cold-blooded** animals and some of whom

are **warm-blooded** animals. By the sound of it, you would think that warm-blooded animals have warm blood and cold-blooded animals have cold blood, but this is not the case. The body temperature of a cold-blooded animal, like an alligator, changes according to the surroundings, or environment of that animal, whereas a warm-blooded animal, like a human, maintains about the same temperature all of the time. I heard that you are keeping a foldable to sort, or classify, animals into groups. What a great idea! You are practicing taxonomy, the study of classifying organisms, exactly like taxonomists do!

You're going to be learning how to sort animals in lots of different ways. Today we are going to sort these five vertebrate groups into two smaller groups. By discovering some common characteristics, you'll learn how to tell which animals are cold-blooded and which animals are warm-blooded. Now I'd like to help you understand a little more about cold-blooded animals.

### D Differentiation

#### Support

Review the five animals that are vertebrates: amphibians, mammals, birds, fish, and reptiles.

Explain that the five animals from this list will be sorted again as warm or cold-blooded animals.

#### Challenge

Have students identify the main idea and supporting details in the Read-Aloud.



### Show Image 4A-2 Paolo and piranhas

Paolo Piranha lives in the country of Colombia on the continent of South America. He's a fish. His body temperature, the measure of how warm his body is on the inside, changes with his surroundings. Right now,

his temperature is the same as the water in which he is swimming. When you go swimming, chances are the water is colder than your body temperature. Paolo does not ever feel cold in water, because there is no difference between his temperature and the water temperature where he lives.



### Show Image 4A-3 Taking child's temperature


Have any of you ever used a thermometer? Perhaps when you are sick, your parents or a nurse might measure your temperature with a thermometer. When warm-blooded people get ill, their temperatures often rise, or go

up. Most people have a body temperature around 98.6 degrees Fahrenheit, and it remains **constant**, or about the same, most of the time. That's very different from Paolo! Paolo's body temperature can change in environments between 50-95 degrees Fahrenheit. The way in which an animal's body temperature is controlled determines whether it is a cold-blooded or warm-blooded animal.

My friend Paolo told me that his **internal**, or inside, body temperature is never constant. It does not stay the same. He cannot heat his body from the inside like you, so his temperature must change with his surroundings in order for his body to work properly. He becomes hot when it is hot around him and cold when it is cold around him.

- **Picture Pause:** Explain to students that during the next part of the Read-Aloud, they should listen for the main idea.

So, you see, although you and Paolo are both vertebrates, you also have differences. One of you is cold-blooded and one of you is warm-blooded. You're right! You are warm-blooded. So that makes Paolo ... Yes! Cold-blooded! Most fish are cold-blooded. In fact, most animals on Earth are cold-blooded. Two of my other friends are cold-blooded as well. Does anyone know who else among them is cold-blooded? Great answers! Next, I'd like to tell you a little about Anna Anaconda.

-  **Think-Pair-Share:** Have students share with a partner the main idea of the paragraph. Remind students to signal when both partners have contributed to the conversation.

» The main idea is that vertebrates are warm- and cold-blooded.



#### **Show Image 4A-4** **Anna and anaconda**

Like Paolo, Anna lives in the rainforest of South America, but in the country of Peru. Does anyone remember what group of animals Anna belongs to? That's right! Anna Anaconda is classified as a reptile, and she

shares some of Paolo's characteristics. They're both cold-blooded, but that doesn't mean that they don't enjoy being warm. Anna loves the heat! Her body is very long indeed, and she told me that one of her favorite things to do is **bask** in the sun. The sun helps her stay warm, and her body soaks up the heat from the warm ground as well. Because she cannot control her own body temperature, Anna depends upon the sun and her warm surroundings to keep properly warm. In fact, my other cold-blooded friend, Tabitha Toad, likes the sun, too!



### Show Image 4A-5

#### Tabitha and toad

Frogs and toads share some of the same characteristics as fish and reptiles. They use their surroundings to maintain—or keep constant—the proper body temperature. Yes, indeed, Tabitha Toad is cold-blooded, just like Paolo and Anna.

And, like Paolo and Anna, Tabitha is very comfortable around water. She comes from the Amazon rainforest in the country of Brazil. But just because her home is near the largest river in the world, it doesn't mean she lives in water all the time. Tabitha and all toads are actually more comfortable on land, whereas frogs prefer to be wet. Tabitha is an amphibian, which means that she can live both in and out of the water.

- **Picture Pause:** Tell students that during the next part of the Read-Aloud, they should listen for the main idea.

So, there you have it—fish, reptile, amphibian—three groups of cold-blooded creatures. Their body temperatures change depending upon where they are, becoming warm when their surroundings are warm and cold when it's cold around them. Because they do not have constant body temperatures, they can easily become too hot or too cold. They have developed characteristics and behaviors so that they can live in certain habitats.

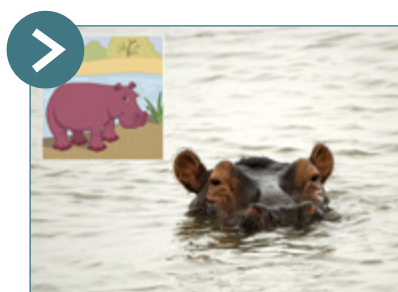
- **Picture Pause:** Ask students to recall the main idea: Fish, reptiles, and amphibians are all cold-blooded.
- Have students turn to the second page of Activity Page 3.2 and circle the word *cold-blooded* in rows 2–4 to classify fish, reptiles, and amphibians.



#### **Show Image 4A-6** **Ebenezer and egret**

Let's learn a little about two of my other friends, my warm-blooded friends—a bird, Ebenezer Egret, and a fellow mammal, Hilda Hippo. Mammals and birds produce their own body heat internally, which keeps their body temperatures constant.

One thing's for sure: Ebenezer Egret does not put on a winter coat like you do when it's cold outside! Of course, he doesn't need to put on an extra coat because he already has a brilliant coat of feathers! Feathers help keep Ebenezer warm. Want to know an interesting fact that Ebenezer shared with me while I was visiting South Africa? Egrets' beautiful white feathers were once prized by hat-makers who used them for the sake of women's hat fashion and beauty—not warmth. Imagine that! Birds that live in cold climates sometimes travel south for the winter to make it easier to stay warm and find more available food. Often, physical characteristics help an animal stay warm. Ebenezer wears a coat of feathers, and I wear a coat of fur. Are you wondering what Hilda Hippo uses for a little additional warmth because she doesn't have fur? Let's take a look and see!



#### **Show Image 4A-7** **Hilda and hippopotamus**

I have a bit of news for you—in the hot tropical climates of Africa where Hilda Hippo lives, trying to stay cool is a more common occurrence than trying to stay warm. Hilda's body design is perfect for helping her stay cool! She has a nice layer of blubber

that insulates her and helps her float. Hippopotami spend lots of time in the water of lakes and rivers to escape the heat. Can you see any other characteristics of the hippopotamus that help it stay in the water for long periods of time? Good observations! Notice how having its nostrils, eyes, and ears on the top of its head lets the hippopotamus keep most of its body under water where it can stay cool!

Ebenezer also uses water to stay cool. Even though egrets can't swim, they do spend lots of time wading in the water, mostly to get their dinner! They feast on fish and toads and plenty of insects in order to store up the energy needed to control their body temperature.

Well, everybody, our time is up for today. You have learned a lot about the taxonomy of cold-blooded and warm-blooded animals, so now you can fill in your Foldable. I can't wait to see all of you again and continue with the show! Bye for now!



**MULTILINGUAL/ENGLISH LEARNERS**  
**Speaking and Listening**  
 Exchanging Information and Ideas

<b>Entering/Emerging</b>	In a small group, ask students to fill in the blanks to the following sentences: Some vertebrates are ____ and some are cold-blooded. Amphibians, ____, and ____ are ____-blooded.
<b>Transitioning/Expanding</b>	With a partner, have students discuss the difference between cold-blooded and warm-blooded animals.
<b>Bridging</b>	Independently, have students list warm-blooded animals. Additionally, have them describe something a warm-blooded animal does to stay warm.

### DISCUSSING THE READ-ALOUD (10 MIN.)

- Have students finish classifying birds and mammals as warm-blooded or cold-blooded on Activity Page 3.2.
1. **Literal.** What groups of animals did you hear about that are cold-blooded?
    - » fish, amphibians, reptiles
  2. **Literal.** What groups of animals did you hear about that are warm-blooded?
    - » birds and mammals
  3. **Inferential.** What do we mean when we say an animal is warm-blooded?
    - » It regulates its body temperature internally to keep a constant internal temperature all the time.

4. **Inferential.** Describe some ways that warm-blooded animals help their bodies stay warm when it is especially cold outside.
  - » They eat food, hibernate, have feathers or fur.
5. **Inferential.** Describe some things a warm-blooded animal does to help its body cool off when the outside temperatures are especially hot.
  - » sweat, pant, drink water, go in cool water
6. **Evaluative.** You learned that humans are warm-blooded animals. Why is it that humans can live in many different environments?
  - » Warm-blooded animals regulate their body temperature internally; energy from food helps warm them; they add or remove layers of clothing; they heat or cool their house; etc.

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#### WORD WORK: *CONSTANT* (5 MIN.)

- In the Read-Aloud, you heard, “A person’s normal body temperature is about 98.6 degrees Fahrenheit and it remains *constant* . . .”
- Say the word *constant* with me.
- Something that is constant does not change very much; it stays steady and even.
- “Miguel’s grandfather is a constant support to him when he needs help with his math homework.”
- Have you ever noticed something or someone in your life that is constant, or that stays steady? What or who is it? Be sure to use the word *constant* when you tell about it.
- Ask two or three students. If necessary, guide and/or rephrase the students’ responses to make complete sentences: “The thing in my life that stays constant is \_\_\_\_\_.”
- What’s the word we’ve been talking about? What part of speech is the word *constant*?
  - » *constant; adjective*
- **Use a Making Choices activity for follow-up.** Directions: “I am going to name a situation. If what I name is an example of something that is steady and constant, say, ‘That is constant.’ If what I name is an example of something that changes a lot and is not constant, say, ‘That is not constant.’”



- On some days, Janine is friendly to me and on other days she doesn't talk to me.
  - » *That is not constant.*
- My aunt is always willing to talk when I have a problem to solve.
  - » *That is constant.*
- My pet snake's temperature goes up and down depending on whether she is lying under the heat lamp or not.
  - » *That is not constant.*
- Eating a good breakfast every day helps me think clearly at school.
  - » *That is constant.*
- Sam's internal body temperature stays about the same whether it is a cold, blustery winter night or a hot, muggy summer afternoon.
  - » *That is constant.*

## Lesson 4: Warm- or Cold-Blooded?

# Reading



### Primary Focus

Students will identify supporting details in a passage about warm- and cold-blooded animals. [RI.3.2]

Students will determine the meanings of the words *constant* and *temperature* using clues from sentences in the text. [L.3.4a]

### VOCABULARY FOR “WARM-BLOODED AND COLD-BLOODED ANIMALS”

- The following are vocabulary words used in this lesson. Preview the words with the students before the lesson and refer back to them at appropriate times. The words also appear in the glossary in the back of the student reader.

**mammal, n.** an animal that usually gives birth, has hair, feeds milk from its own body to its young, and is warm-blooded

**reptile, n.** a cold-blooded animal with tough, scaly skin that uses its surroundings to control its body temperature

**scale, n.** a thick, small disc on the outside of the bodies of some animals, such as fish and reptiles (scales)

**temperature, n.** the measurement of how hot or cold something is

**constant, adj.** not changing very much and staying steady and even

**cold-blooded, adj.** having a body temperature that changes with the temperature of the environment

**warm-blooded, adj.** being able to control internal body temperature by making heat within the body and having ways to cool the body down when needed

Vocabulary Chart for “Warm-Blooded and Cold-Blooded Animals”		
Type	Tier 3 Domain-Specific Words	Tier 2 General Academic Words
Vocabulary	mammal reptile scale cold-blooded warm-blooded	constant temperature
Multiple-Meaning		
Sayings and Phrases		

### INTRODUCING THE READING (5 MIN.)

- Review the Main Idea and Supporting Details chart to the whole group. Explain that in the Read-Aloud, the focus was on finding the main idea. During the reading, the focus will be on identifying the main idea and supporting details. Explain that supporting details support the main idea. Supporting details are facts or details that tell you more about the main idea.
- Explain to students that today’s reading is also about warm- and cold-blooded animals.
- Tell students that today’s chapter is called “Warm-Blooded and Cold-Blooded Animals.”
- Ask students to turn to the Table of Contents, locate the chapter, and then turn to the first page of the chapter.

## Chapter 4 Warm-Blooded and Cold-Blooded Animals



Rattenborough, here again! In Chapter 2, you learned how scientists **classify** living things into one group called **kingdoms**. You learned about the animal and plant **kingdoms**. You also learned that animals and other living things are classified into more specific groups.

Today, you will learn more about the animal **kingdom**. You will learn that there are many kinds of animals that have different **characteristics**. Scientists study these different **characteristics** to divide the animal **kingdom** into more specific groups.



Scientists **classify** living things by different **characteristics**.

### PRESENTING THE READING (15 MIN.)

#### Pages 26–27

- Read the title of the chapter together as a class: “Warm-Blooded and Cold-Blooded Animals.”
- “Where in the Reader could we find the definition of *warm-blooded* quickly?”
  - » the glossary
- Note for students that the word *warm-blooded* is not capitalized in the glossary but is capitalized in the title of the chapter.
- Ask students to find the word in the glossary.
- Call on one student to identify where the word is and read the definition.
- Redirect students’ attention to **page 26**. Have them locate the word *cold-blooded* in the title. Again, note for students that the word *cold-blooded* is not capitalized in the glossary but is capitalized in the title of the chapter.

- Have one student read Rattenborough's greeting in the first paragraph on **page 26**. Have students read the caption and look at the image on **page 27**.
- Read aloud **pages 26–27**. Using the image on **page 27**, ask students to point out differences they see among the different groups of animals.
  - » one is birds, one is fish, one is insects, etc.

Do you think this crocodile is a **mammal**?



Many animals—such as cats, mice, rats, cows, elephants, tigers, and even people—belong to a group called **mammals**. So, you and I are **mammals**! All **mammals** have hair, but some have more hair, or fur, than others. You have to get pretty close to an elephant to see its hair, but it is a **mammal**.

Another **characteristic** of **mammals** is that many can give birth to live babies. Some **mammal** babies begin breathing, moving, and looking for food as soon as they are born. **Mammal** mothers make milk to feed their newborns. This is another key **characteristic** of all **mammals**. Some mammals lay eggs, too!

Answer: No!

Why not?

- Crocodiles have **scales**, not hair or fur.
- All crocodiles lay eggs and baby crocodiles hatch from those eggs. Crocodiles do not have live births.
- A baby crocodile does not get milk from its mother. Its first meal might be a bug. Later, he'll eat bigger animals.

Crocodiles belong to a different group of animals called **reptiles**, along with snakes, lizards, and turtles.

## Pages 28–29

- Ask students to read **page 28** to themselves to answer the question: “What are some characteristics of mammals?”
- When students have finished reading, restate the question and ask students to answer.
  - » have hair, most give birth to live babies, some can lay eggs, mothers make milk to feed newborns
- Explain to students that the main idea of the paragraph is mammals. The supporting details are all of the characteristics of mammals.
- Tell students to read **page 29** to themselves to answer the question: “What characteristics do crocodiles have?”
- When students have finished reading, restate the question and ask students to answer.
  - » scales, lay eggs from which babies hatch, babies do not get milk from their mother

## D Differentiation

### Support

Draw a picture with the main idea (mammals) and supporting details (have hair, most give birth to live babies, some can lay eggs, mothers make milk to feed newborns).

- Ask students: “What is the main idea of the passage?”
  - » crocodiles
- What are the supporting details?
  - » scales, lay eggs, babies do not get milk from their mother

Scientists also **classify** animals as **mammals** or **reptiles** based on how the animals control their body **temperature**. Animals need to keep within their limits of body temperature, as some have tighter limits than others. Some animals need to keep a relatively **constant temperature** inside their bodies for their bodies to work properly. If an animal gets too hot or too cold, its body will not work the way it should. An animal may become sick or even die.

**Mammals** are **warm-blooded** animals. When **warm-blooded** animals are in a cold place, they use energy from food they eat to help keep their bodies warm. Some **warm-blooded** animals shiver to keep warm. When they shiver, their bodies make heat to keep warm.

When **warm-blooded** animals are somewhere hot, their bodies react in a different way to cool off. Some **warm-blooded** animals, like people, sweat to stay cool. Dogs pant to stay cool. Other **warm-blooded** animals drink lots of water as a way to cool off. Did you know that cows need to drink almost a bathtub full of water a day?

**Warm-blooded** animals act in different ways to maintain a **constant temperature** inside their bodies. **Mammals** can live in **habitats** with different **temperatures** because their bodies do not rely on the environment. **Warm-blooded** animals, like **mammals**, must eat often to make energy to heat or cool their bodies. Most **warm-blooded** animals need to eat every day. Some need to eat every hour!

### Pages 30–31

- Write *constant* and *temperature* on the board. Have students find the words on **page 30**. Tell students that these words are often used together in this chapter, but that each word has its own meaning and can be found separately in the glossary. Note for students that *temperature* is also used in this chapter.
- Have students focus on the following sentence:
  - » Some animals need to keep a relatively **constant temperature** inside their bodies for their bodies to work properly.
- **Turn and Talk:** Have students turn to a partner and share the meaning of the phrase *constant temperature*. Remind students to use clues from the sentence to support their answer. Have student volunteers share their answers.



- Tell students to find the word *constant* in the glossary. Ask students to read its definition.
- Repeat the procedure for *temperature*. Then, ask students if they can give a definition for *constant temperature*.
  - » how hot or cold something is that does not change
- Tell students to read **page 30** to themselves.
- Ask students if they see any new vocabulary words.
  - » no
- Pass out one half-sheet of paper to each student. Tell students to read **page 31** to themselves and write the main idea and supporting details on the piece of paper.
- When students are finished with their piece of paper, have students crumple up the paper and place it in the center of the room. Teacher reads aloud from one piece of paper from the pile. Class discusses the paper to determine if the correct main idea and supporting details are listed.
  - » Main idea: warm-blooded animals cool off in different ways. Supporting details: animals sweat, pant, and drink lots of water



### Check for Understanding

If students had difficulty finding the main idea and supporting details, project the passage from **page 31** and underline the main idea and supporting details.

**Reptiles** are **cold-blooded** animals. The body **temperature** of **cold-blooded** animals changes depending on the outside **temperature**. They become hot when it is hot outside and cold when it is cold outside. But **cold-blooded** animals must also keep a **constant temperature** for their bodies to work properly.

**Cold-blooded** animals do not use energy from their bodies to stay warm or cool. Instead they use what is around them to keep warm or keep cool. Crocodiles stay in water or mud in order to stay cool on hot days. If they need to warm up on cooler days, they bask in the sun.

While **warm-blooded** animals can live in just about any **habitat**, **cold-blooded** animals can only live in certain **habitats**.

**Cold-blooded** animals do not need to eat as often as **warm-blooded** animals. This is because they do not need lots of food to make energy to warm or cool their bodies. Most crocodiles only eat once a week, but they can live for months and sometimes years without eating!



*Cold-blooded animals like these crocodiles cool off by taking a swim when it's too hot. When it's cool outside, they warm up in the sun.*

## Pages 32–33

- Tell students to read **pages 32–33** to themselves.

## DISCUSSING THE READING (10 MIN.)

- Distribute paper and display the following sentence starter:
  - Humans and fish are vertebrates . . .
- Have students write a new sentence using the conjunctions *because*, *but* and *so*.
  - » Answers may vary but could include “Humans and fish are vertebrates because both have backbones,” “Humans and fish are vertebrates, but humans are warm-blooded and fish are cold-blooded,” or “Humans and fish are vertebrates, so they are classified in the same phylum.”
- Have students take out Activity Page 4.2 and complete independently. Students may use their Reader to go back into the text to support their answers.



### MULTILINGUAL/ENGLISH LEARNERS

#### Reading

##### Exchanging Information and Ideas

#### Entering/Emerging

Students use a concept map and write “warm-blooded” in center circle. As a small group, add one supporting detail/characteristic about warm-blooded animals.

#### Transitioning/ Expanding

With a peer, students complete concept map with “warm-blooded” in the center and provide three supporting details/characteristics.

#### Bridging

Independently, students draw a concept map with “warm-blooded” in the center and provide four supporting details about warm-blooded animals or mammals. When finished, have them share their concept map and discuss with another student.

## Activity Page 4.2



## D Differentiation

### Challenge

Have students complete Activity Page 4.2 independently.

## Lesson 4: Warm- or Cold-Blooded?

# Writing



### Primary Focus

Students will write a short reflection about an interesting animal to further research. [W.3.10]

Students will properly capitalize the title for their short reflections. [L.3.2a]

### FIELD JOURNAL (15 MIN.)

#### Activity Page 4.3



- Have students take out Activity Page 4.3.
- The journal entry today asks: “If you could be one animal in the reading or Read-Aloud you read today, what would you be?” Give three reasons why.
- Tell students that they are going to write an introduction sentence with their opinion of being an animal and three supporting sentences with their reasons.
- Have students look at the title of the page: “Field Journal”
- Explain that they are going to write a title for their reflection next to “Field Journal.” Tell them that they are going to capitalize the important words in their title, which includes nouns, pronouns, verbs, adjectives, and adverbs. The following words generally should not be capitalized unless they are the first word of a title: *an, but, and, or, the, a, of*.
- Have students look at the title “Field Journal” again. Tell them that the words *Field* and *Journal* are capitalized because they are nouns and important words in the title. Explain that the word *Field* is capitalized because it is the first word in the title.
- Tell students to write a title, with correct capitalization, after writing their reflection.
- Have students record their answers on Activity Page 4.3.



## MULTILINGUAL/ENGLISH LEARNERS

### Writing

#### Exchanging Information and Ideas

<b>Entering/Emerging</b>	Students write a short response with a peer using the sentence starter: "I want to learn more about ____."
<b>Transitioning/Expanding</b>	Students write a short response with a peer using the sentence starter: "I want to learn more about ____." Add another sentence: "I like this animal because ____."
<b>Bridging</b>	Students write a short reflection independently and expand on the topic sentence. Students state at least two reasons why the animal is interesting.

## Lesson 4: Warm- or Cold-Blooded?

# Language



**Primary Focus:** Students will determine the meaning of words formed when *un-* and *non-* are added to a known root word. [L.3.4b]

### MORPHOLOGY (20 MIN.)

#### Introduce Prefixes *un-* and *non-*

- Remind students that this week's spelling words focus on adding the suffixes *-ed* and *-ing* to root words. Tell students that, today, they will continue to study root words, but they will focus on a different type of word part called a prefix.
- Explain that prefixes are added to the beginning of words while suffixes are added to the end of words.
- Refer to the previously created chart or display Visual Support 4.2.

#### > Visual Support 4.2

##### Prefix

A **prefix** is a syllable placed in front of a root word. Prefixes change the meaning of the root word.

- Emphasize for students that the *features* of prefixes are that they are added to the beginning of a root word, they change the meaning of the root word, they add a syllable to the beginning of the root word, and they may change the part of speech of the word.

## Activity Page 4.4



## D Differentiation

### Support

Complete Activity Page 4.4 as a teacher-guided activity.

### Challenge

Have students list additional *un-* and *non-* words from their Reader. Have students define each word based on the root word and prefix.

- Tell students that the two prefixes they will study this week are *un-* and *non-*. Explain that both *un-* and *non-* have the same meaning, which is “not.”
- Write the word *safe* on the board or chart paper. Discuss the meaning of the word.
  - » Protected from harm or danger; It is safe to cross the street when the police officer signals us to go.
- Add the prefix *un-* to *safe* and have students read the prefix, read the new word, and then discuss the meaning of the new word.
  - » not protected from harm or danger
- Ask students for examples of things that could be described as *unsafe*.
  - » Answers may vary but could include broken glass, wires hanging down, riding a bicycle without a helmet, etc.
- Write the root word *living* on the board or chart paper. Briefly discuss the meaning of *living* (*alive*) and then use it in a sentence. (*You are a living descendant of your grandparents.*)
- Note for students that the root word of *living* is *live*, one of this week’s Challenge Words.
- Add the prefix *non-* to *living* and have students read the prefix, read the new word, and then discuss the meaning of the new word (*not alive*).
- Students will complete Activity Page 4.4.



## MULTILINGUAL/ENGLISH LEARNERS

### Language

#### Exchanging Information and Ideas

#### Entering/Emerging

Write sticky notes: “un-,” “safe,” and “well.” On back of “un- ” write “not.” Join sticky notes to form “un+safe” and “un+well.”

#### Transitioning/ Expanding

Write sticky notes: “un-,” “safe,” and “well.” On back of “un-” write “not.” Join sticky notes: “un+safe.” Repeat: “un+well.” What’s difference between feeling safe vs. unsafe; well vs. unwell?

#### Bridging

Write sticky notes: “un-,” “safe,” “necessary,” and “well.” Discuss meaning of “necessary” vs. “unnecessary” with peer. Discuss how adding prefix changes meaning.

## SPELLING (10 MIN.)

- Review the spelling words that you introduced earlier this week using the table displayed on the board.

Root Word	-ed	-ing
hop	hopped	hopping
rub	rubbed	rubbing
ship	shipped	shipping
grab	grabbed	grabbing
patch	patched	patching
plan	planned	planning
stretch	stretched	stretching
finish	finished	finishing
discuss	discussed	discussing
submit	submitted	submitting
<b>Challenge Word:</b> give		
<b>Challenge Word:</b> live		

- Ask students to turn to Activity Page 3.4, which they completed at home last night.
- Call on one student at a time to share a Blank Busters statement with the class to see if students can fill in the blank with the correct spelling word form.
- Discuss the correct answer with the class and the correct spelling, using the table of this week's spelling words.
- Continue in this manner for the remaining time with other students' Blank Busters statements.

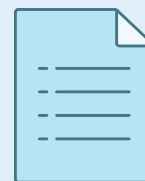
End Lesson

### Lesson 4: Warm- or Cold-Blooded?

## Take-Home Material

- Students will read Take-Home Page 4.1 and choose one paragraph from the reading to complete the graphic organizer at the bottom of the page.

### Activity Page 3.4



### Take-Home Page 4.1



## 5

# Fins and Gills

## PRIMARY FOCUS OF LESSON

### Language

Students will use conventional spelling for doubling or not doubling a final consonant when adding the suffixes *-ed* and *-ing* to root words.

[L.3.2e]

### Reading

Students will identify text features to gain greater understanding about fish.

[RI.3.5]

Students will demonstrate an understanding of words *aquatic* and *aquarium* using the root word *aqua*. [L.3.4c]

### Speaking and Listening

Students will identify information about fish and explain how specific text features support their learning about fish. [W.3.2, RI.3.5]

Students will determine the meaning of unknown words using clues from sentences in the text. [L.3.4a]

Students will present findings learned about fish from the text features. [SL.3.4]

Students will demonstrate an understanding of the Tier 2 word *aquatic*. [L.3.4]

## FORMATIVE ASSESSMENT

### Activity Page 5.1

**Spelling Assessment** Use conventional spelling for doubling or not doubling a final consonant when adding the suffixes *-ed* and *-ing* to root words. [L.3.2e]

### Activity Page 5.4

**Fish and Gills Exit Pass** Identify and explain text features in the Reader. [RI.3.5]





**Teacher Presentation Screens:**  
all lessons include slides

## LESSON AT A GLANCE

	Grouping Recommendations	Time	Materials
<b>Language (20 min.)</b>			
Spelling Assessment	Whole Group	20 min.	☐ Activity Page 5.1
<b>Reading (40 min.)</b>			
Introducing the Reading	 <b>Small Group</b>	15 min.	☐ chart paper ☐ List of Text Features
Small Group Reading	 <b>Small Group</b>	15 min.	☐ <i>Rattenborough's Guide to Animals</i>
Discussing the Reading	 <b>Small Group</b>	10 min.	☐ sticky notes for Small Group 2 ☐ Activity Page 5.2
<b>Speaking and Listening (60 min.)</b>			
Introducing the Read-Aloud	 <b>Small Group</b>	10 min.	☐ Fish cards ☐ <i>Rattenborough's Guide to Animals</i>
Presenting the Read-Aloud	Whole Group	20 min.	☐ Activity Pages 3.2, 5.3, 5.4
Discussing the Read-Aloud	Whole Group	10 min.	
Word Work: <i>Aquatic</i>	Whole Group	5 min.	
Partner Presentations	Partner	15 min.	

## ADVANCE PREPARATION

### Reading

- Prepare the text feature cards. Each student will need one card.

#### Text Features

**table of contents**

**heading**

**bold print words**

**photo and captions**

**chart**

**map**

**glossary**

**diagram**

## Speaking and Listening

- Prepare fish cards. Each small group will need one set of fish cards.

**piranha**

**salmon**

**African lungfish**

**goldfish**

**tuna**

**eel**

**shark**

**stingray**

**bass**

**trout**

## Universal Access

- Show students a picture or video clip that features fish. Ask students, “Where do the fish live?” Students should choose a fish they saw in the image or scene and describe what it looks like (aloud or on paper).
  - Ask students if they have ever seen a fish. “Where did you see the fish? On TV or in a cartoon? How about in person?”
  - Ask students to share. They might mention a fishing trip to the ocean or in a river, stream, or lake. They might mention a field trip to an aquarium.
  - As you respond to student statements, weave key words into the discussion, including *freshwater*, *saltwater*, *aquatic*, *habitat*.
  - This discussion will connect students’ prior experience to the upcoming information in this lesson and activate prior knowledge about fish and key terms.
- To ensure that all students have the opportunity to contribute during Turn and Talk and Think-Pair-Share exchanges, provide students with a signal such as folding their hands or raising a hand to indicate when both partners have added to the conversation.

## Lesson 5: Fins and Gills

## Language



**Primary Focus:** Students will use conventional spelling for doubling or not doubling a final consonant when adding the suffixes *-ed* and *-ing* to root words. [L.3.2e]

**SPELLING ASSESSMENT (20 MIN.)**
**Spelling Assessment**

- Have students turn to Activity Page 5.1 for the spelling assessment.
- Call out each word one at a time in the following manner: say the word, say a sentence with the word in it, and then say the word again.
- Tell students that after each word has been read once, you will go back through the list once more.

1. ship	7. plan
2. patch	8. discuss
3. rub	9. stretch
4. finish	10. submit
5. grab	<b>Challenge Word:</b> give
6. hop	<b>Challenge Word:</b> live

- After you have called out all of the words, including the Challenge Words, go back through the list slowly, reading each word just once more.
- Then, ask students to add *-ed* and *-ing* to each root word. Allow students time to complete this portion of the spelling assessment. Remind students not to add *-ed* and *-ing* to the two Challenge Words.
- Ask students to write the following sentence as you dictate it:  
Please submit your paper to the teacher.

**Note:** At a later time today, you may find it helpful to use the template provided at the end of this lesson to analyze students' mistakes. This will help you to understand any patterns that are beginning to develop, or that are persistent among individual students.

**Activity Page 5.1**


## Lesson 5: Fins and Gills

# Reading



### Primary Focus

Students will identify text features to gain greater understanding about fish. [RI.3.5]

Students will demonstrate an understanding of words *aquatic* and *aquarium* using the root word *aqua*. [L.3.4c]

### VOCABULARY FOR “FISH”

- The following are vocabulary words used in this lesson. Preview the words with the students before the lesson and refer back to them at appropriate times. The words also appear in the glossary in the back of the Reader.

**aquatic, adj.** living, growing, or found in water

**oxygen, n.** a colorless gas that animals must breathe to stay alive

**gill, n.** one of a pair of organs fish use to breathe underwater

**fin, n.** a bony spine covered with skin that sticks out from a fish’s body and helps it swim (**fins**)

**school, n.** a large group of fish or other aquatic animals that swim together (**schools**)

**migrate, v.** to move from one place to another

Vocabulary Chart for “Fish”		
Type	Tier 3 Domain-Specific Words	Tier 2 General Academic Words
Vocabulary	gills scales	aquatic
Spanish Cognates	acuático	
Multiple-Meaning	scale	
Sayings and Phrases		

## INTRODUCING THE READING (15 MIN.)



### Small Group

- Remind students that they have learned that scientists who study the animal kingdom classify animals into different groups based on different characteristics, or features.
- Remind students that the animal kingdom is separated into categories made up of warm-blooded and cold-blooded animals, vertebrates, and invertebrates.
- Tell students that today's reading and Read-Aloud are all about fish.
- **Write-Share-Write:** Have students write one or two sentences describing everything they know about fish, including appearance, habitat, and food. After writing, have students share their descriptions with a partner, who will write down their partner's descriptions about fish. Have students give feedback to their partner's writing, such as a question or suggestion about the characteristics of a specific fish. Based on feedback, have students expand their own writing. Remind students to signal when both partners have finished writing.
- **Timed Activity:** Pass out a piece of chart paper to small groups. Have students brainstorm everything they know about fish for ten minutes—their appearance, where they live, what they eat, etc.
- Have small groups share out their responses.
- Write the words *aquatic* and *aquarium* on the board.
- Have student volunteers share similarities and differences with both words.
- Tell students that both words have the root word *aqua*. Explain that *aqua* is a Latin word meaning water. Tell students that anytime you see *aqua*, the word is related to water.
- **Turn and Talk:** Have students turn to a partner and share the meaning of the word *aquatic* using the root word *aqua*.
- Explain that *aquatic* means anything living or growing near water.
- **Turn and Talk:** Have students turn to a different partner and share the meaning of the word *aquarium*. Remind them to think about the meaning of *aqua* as they share their answers.
- Pass out the Text Features cards to each student. Have students brainstorm possible text features that may be present in the reading and Read-Aloud.

## D Differentiation

### Challenge

Have students find additional text features in the “Fish” chapter.

### Support

Have students take out Activity Page 1.4A to review Text Features.

### Activity Page 5.2



## D Differentiation

### Support

Supply students with additional sticky notes and identify additional headings in the text.

## SMALL GROUP READING (15 MIN.)



### Small Group

**Note:** The Guided Reading Supports that follow are intended for use while you work with students in Small Group 1.

- Small Group 1: Read with students the chapter with the teacher. Follow the Guided Reading Supports that follow as you guide students through the chapter.
- Small Group 2: Ask these students to read the chapter independently and complete Activity Page 5.2.

## GUIDED READING SUPPORTS

### Pages 34–35

- Pass out 8 sticky notes to each student. Have students write the one text feature on each sticky note: table of contents, heading, bold print word, photo and caption, chart, map, glossary, and diagram.
- Ask, “What is the heading of this chapter?”
  - » *fish*
- Have student place the “heading” sticky note by the heading.
- Read the title of the chapter together as a group: “Fish.”
- “Where in the Reader could we find the definition of *aquatic* quickly?”
  - » the glossary
- Have students place the “glossary” and “bold print words” sticky notes in their Reader.
- Ask students to find the word *aquatic*.
- Remind students that authors use bold print to highlight important words or concepts in the text.
- Call on one student to identify where the word is and read the definition.
- Redirect students’ attention to **page 34**. Have one student read aloud the greeting from Rattenborough found in the first paragraph.
- Have students place the “photo and caption” sticky note by the picture and caption on **page 35**.





Rattenborough here again! You have learned that scientists study the **characteristics** of animals. They do this to divide the animal **kingdom** into different groups, such as **mammals** and **reptiles**. Today you are going to learn about another group of animals within the animal **kingdom**—fish.

Fish are **aquatic** animals, meaning that they spend their lives **underwater**. Most fish are **cold-blooded**. Their body **temperature** changes with the **temperature** of the water. Fish are also **vertebrates**. In fact, they are the largest group of animals on Earth that are **vertebrates**. Earth is covered mostly by water, so it makes sense that fish are the most common **vertebrates**. There are many different types and sizes of fish.

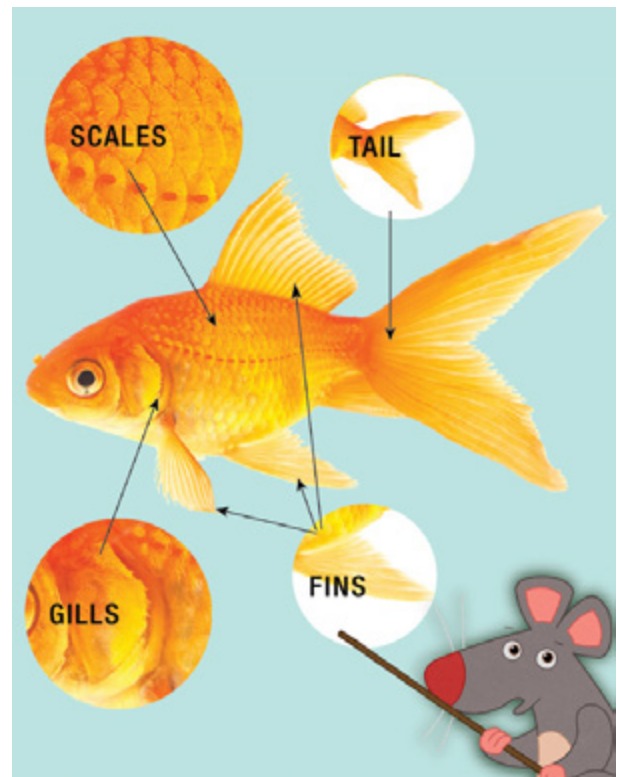


*Fish come in many sizes and colors.*

Fish lay eggs **underwater**. They also eat and sleep under water. Fish do not sleep in the same way **mammals** sleep. Fish can't close their eyes because they don't have eyelids. When they sleep, they float around or find a place to hide while they rest.

Like other animals, fish need to breathe **oxygen**. But fish do not have lungs like people and they do not breathe **oxygen** from the air. Instead, they have **gills** just behind their heads. Fish **gills** take **oxygen** out of the water, so that fish can breathe. But **gills** do not work well outside water. They cannot take **oxygen** out of the air. A fish will die quickly—within several minutes—if it is removed from water.

Fish have **scales** that cover their skin. **Scales** are rounded and smooth, and there is usually an inner and outer layer. The **scales** protect the skin and help fish move easily through the water. Fish also use the different **fins** on their body and their tails to swim. They are able to glide through the water, rapidly changing direction by using their **fins** and tail.



## Pages 36–37

- Ask students to read **pages 36–37** and identify another text feature.
- When students have finished reading, ask students what text feature they found.
  - » diagram
- Have students look at the image on **page 37** and discuss the different types and sizes of fish displayed.

Most fish live in saltwater, because most water on Earth is salty. Tropical fish that live in the warm ocean are very colorful. They look as if an artist painted interesting patterns on their bodies. Many fish also live in freshwater, including streams, rivers, lakes, and ponds.



*These tropical fish live in a saltwater **habitat**.*

38

39

## Pages 38–39

- Ask students to read **pages 38–39** to themselves.
- When students are finished, discuss and place the sticky note “table of contents” in the correct location.
- At this point, students will have two sticky notes that have not been placed: chart and map. Discuss how a chart and/or map could have been used in this chapter. (A chart could show saltwater and freshwater fish and a map could locate different fish around the world).

Some fish travel in groups called **schools**. One type of fish that travels in **schools** is salmon. Salmon live in both saltwater and freshwater. Some types of salmon are born in freshwater streams and rivers. After about a year, they make their way to the ocean where they live for one to five years. Then, they **migrate** back to the exact same stream where they were born. They lay eggs and the **life cycle** begins again.

Salmon don't use a map to help them find their way back home. Most scientists think they use their strong sense of smell to find their way. They swim upstream, against the river's current, sometimes swimming hundreds of miles. They leap over waterfalls and rocks to get to the same stream where they were born. They go through all this hard work to reach their home to lay their eggs.

Hopefully, along the way, a grizzly bear or fisherman won't catch them first. It just so happens that salmon are among the tastiest of all fish!

### Pages 40–41

- Ask students to read **pages 40–41** to themselves to find the answer to the question, “What makes salmon a unique type of fish?”
- When students have finished reading, discuss the answer to the question. Answers may include: they live in fresh and salt water; they migrate back to the same stream where they were born in order to lay eggs; they use their sense of smell to find their way back without a map; they leap over rocks and waterfalls while swimming against the current.

## DISCUSSING THE READING (10 MIN.)

### Small Group

- **Write-Pair-Share:** Distribute paper and display the following sentence starter:
  - Fish are...
- Have students write a new sentence that includes details that describe when and where. After writing, tell students to share their writing with a partner. Remind students to signal when both partners have contributed to the conversation.
  - » Whereas insects are the largest group of invertebrates on Earth, fish are the largest group of vertebrates.
- As a whole group, review Activity Page 5.2.



### Check for Understanding

If students could not match text features on Activity Page 5.2, organize students based on text feature(s) that need further instruction. Review the definition of each text feature and provide students with additional examples in the Reader.



#### MULTILINGUAL/ENGLISH LEARNERS

#### Reading

#### Understanding Text Structure

<b>Entering/Emerging</b>	With a small group, model identifying text features in a text.
<b>Transitioning/ Expanding</b>	With a small group of students, the teacher will watch students locate two of the text features on the page and confirm student answers are correct.
<b>Bridging</b>	Student will complete Activity Page 5.2 independently and teacher will confirm student answers.

## Lesson 5: Fins and Gills

# Speaking and Listening



### Primary Focus

Students will identify information about fish and explain how specific text features support their learning about fish. [W.3.2, RI.3.5]

Students will determine the meaning of unknown words using clues from sentences in the text. [L.3.4a]

Students will present findings learned about fish from the text features. [SL.3.4]

Students will demonstrate an understanding of the Tier 2 word *aquatic*. [L.3.4]

### VOCABULARY FOR READ-ALoud

**aquatic, adj.** living, growing, or found in water

**gill, n.** one of a pair of organs fish use to breathe underwater

**scales, n.** thick, small discs on the outside of the bodies of some animals, such as fish and reptiles

Vocabulary Chart for “Fish: Fins and Gills”

Type	Tier 3 Domain-Specific Words	Tier 2 General Academic Words
Vocabulary	aquatic gills scales	
Multiple-Meaning	scales	
Sayings and Phrases		

### INTRODUCING THE READ-ALoud (10 MIN.)



#### Small Group

- Pass out fish cards (one set for each small group). Have students sort the cards based on characteristics or prior knowledge.
- Have students turn to Activity Page 5.3. Explain to students that during the Read-Aloud, they will record information about fish using text features. At the end of

the lesson, students will complete the backside: Student Interview questions 1 and 2. Explain that Picture Pauses will be used throughout the Read-Aloud so students can add information to the graphic organizer on Activity Page 5.3.



## PRESENTING THE READ-ALOUD (20 MIN.)

- Tell students to turn to the table of contents and locate today's chapter: "Fish: Fins and Gills." Have students turn to the first page of the chapter and follow along during the Read-Aloud.



### Student Reader pages 42–44 Rainforest with Paolo

Hello everyone! I'm back after a delightful rest! Today I'm going to tell you more about my friend Paolo Piranha and the group to which he belongs. So far, you've learned that scientists classify living things by common characteristics in order to study them and show relationships.

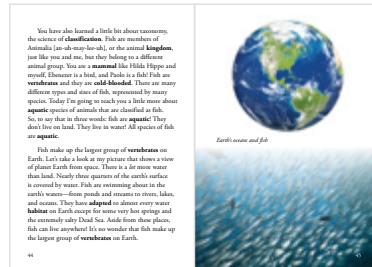
You have learned about cold-blooded and warm-blooded animals. Who remembers if Paolo is cold-blooded or warm-blooded and can explain what that means? Ah, bravo! Right! Paolo Piranha's internal body temperature varies with his surroundings. When Paolo is swimming in warm water, his body temperature is higher than when he is swimming in cold water. His body temperature is not constant; it makes adjustments to the surrounding temperature easily.

Who remembers another way scientists classify animals? I'll give you a hint. It has to do with bones. Right! Some animals have backbones—what's another word for animals with backbones? Yes, animals with backbones are called vertebrates. And those without backbones are called invertebrates. Paolo is one of many kinds of animals capable of swimming. Having a strong backbone is one type of body design that helps Paolo and other fish to be good swimmers.

You have also learned a little bit about taxonomy, the science of classification. Fish are members of Animalia [an-uh-may-lee-uh], or the animal kingdom, just like you and me, but they belong to a different animal group. You are a mammal like Hilda Hippo and myself, Ebenezer is a bird, and Paolo is a fish! Fish are vertebrates and they are cold-blooded. There are many different types and sizes of fish, represented by many species. Today I'm going to teach you a little more about aquatic species of animals that are classified as fish. So, to say that in three words: fish are aquatic! They don't live on land. They live in water! All species of fish are aquatic.



- **Picture Pause:** As a whole group, identify one piece of information to add to the Fish graphic organizer on Activity Page 5.3. (Fish: cold-blooded, vertebrates, and aquatic)



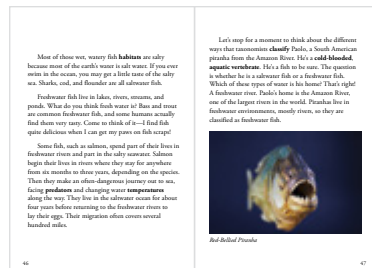
## Student Reader page 44–45

### Earth's oceans and fish

Fish make up the largest group of vertebrates on Earth. Let's take a look at my picture that shows a view of planet Earth from space. There is a *lot* more water than land. Nearly three quarters of the earth's surface

is covered by water. Fish are swimming about in the earth's waters—from ponds and streams to rivers, lakes, and oceans. They have adapted to almost every water habitat on Earth except for some very hot springs and the extremely salty Dead Sea. Aside from these places, fish can live anywhere! It's no wonder that fish make up the largest group of vertebrates on Earth.

Most of those wet, watery fish habitats are salty because most of the earth's water is salt water. If you ever swim in the ocean, you may get a little taste of the salty sea. Sharks, cod, and flounder are all saltwater fish.



## Student Reader page 46

### Trout and salmon

Freshwater fish live in lakes, rivers, streams, and ponds. What do you think fresh water is? Bass and trout are common freshwater fish, and some humans actually find them very tasty. Come to think of it—I find fish

quite delicious when I can get my paws on fish scraps! Some fish, such as salmon, spend part of their lives in freshwater rivers and part in the salty seawater. Salmon begin their lives in rivers where they stay for anywhere from six months to three years, depending on the species. Then they make an often-dangerous journey out to sea, facing predators and changing water temperatures along the way. They live in the saltwater ocean for about four years before returning to the freshwater rivers to lay their eggs. Their migration often covers several hundred miles.



- Have students write one or two unknown words from **page 46**. With a partner, have students determine the meaning of each word using clues from sentences in the paragraph.
- **Picture Pause:** With a partner, add additional information about fish to Activity Page 5.3.

## D Differentiation

### Challenge

Research fish and add additional information to Activity page 5.3.

Most of these wet, watery fish **habitate** an salty because most of the earth's water is salt water. If you ever eaten in the ocean, you may get a little taste of the salty sea. Sharks, cod, and flounder are all saltwater fish.

Freshwater fish live in lakes, rivers, streams, and ponds. What do you think fresh water is? Run and taste are common freshwater fish, and some humans actually find them very tasty. Can you think of a—? Fresh fish quite delicious when I can get my paws on fish except.

Some fish, such as salmon, spend part of their lives in freshwater rivers and part in the salty ocean. Salmon begin their lives in rivers where they stay for anywhere from six months to three years, depending on the species. Then they make an often-dangerous journey out to sea, facing **predators** and changing water **temperatures** along the way. They live in the saltwater ocean for about four years before returning to the freshwater rivers to lay their eggs. This migration often causes several hundred miles.

Let's stop for a moment to think about the different ways that taxonomists **classify** Paolo, a South American piranha from the Amazon River. He's a **cold-blooded**, **aquatic vertebrate**. He's a fish to be sure. The question is whether he is a saltwater fish or a freshwater fish. Which of these types of water is his home? That's right! A freshwater river. Paolo's home is the Amazon River, one of the largest rivers in the world. Piranhas live in freshwater environments, mostly rivers, so they are classified as freshwater fish.



Red-Bellied Piranha

### Student Reader page 47 Amazon River and piranha

Let's stop for a moment to think about the different ways that taxonomists classify Paolo, a South American piranha from the Amazon River. He's a cold-blooded, aquatic vertebrate. He's a fish to be sure.

The question is whether he is a saltwater fish or a freshwater fish. Which of these types of water is his home? That's right! A freshwater river. Paolo's home is the Amazon River, one of the largest rivers in the world. Piranhas live in freshwater environments, mostly rivers, so they are classified as freshwater fish.

Sometimes animals are classified by their physical characteristics. Though piranhas do have very sharp teeth, they are not the bloodthirsty carnivores they are sometimes perceived to be, always ready to attack humans. Indeed, members of the red-bellied species of piranha do hunt the meat of other fish in large groups, but they eat all they can. Many piranhas are omnivores. You have reviewed carnivores and omnivores earlier in this domain. Who can tell me what the difference is? That's right—as omnivores, some piranhas can both animals and plants, eating seeds and fruit that fall into the water. Many piranhas also feed on carrion, animals that have already died. You will continue to hear about the different foods that many different animals eat—this will help you describe animals. Later you will hear about how the shape and size of animals' teeth give you clues about what they eat.

So, you already know several common characteristics of fish. But there are more. Can you think of any others? I'll give you a hint. You know that all animals need to breathe **oxygen** in order to live. Fish do not have lungs, so we have to wonder how in the world—or in this case under water—do they breathe?




Diagram of fish

Look closely at this fish and see if you can spot its breathing machine. The **respiratory**, or breathing, organs of a fish are called **gills**. All fish have gills. They take water in through their mouths and the water passes over their gills. The gills take in **oxygen** from the water, allowing them to breathe. You will see quickly if you don't get enough oxygen you don't **survive** out of the air. But fish die quickly if they do not have water, because their **oxygen** comes from water.

### Student Reader page 48 Red-Bellied Piranha

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humans. Indeed, members of the red-bellied species of piranha do hunt the meat of other fish in large groups, but that's not all they eat. Most piranhas are omnivores. You have reviewed carnivores and omnivores earlier in this domain. Who can tell me what the difference is? That's right—as omnivores, most piranhas eat both animals and plants, eating seeds and fruit that fall into the water. Many piranhas also feed on carrion, animals that have already died.

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So, you already know several common **characteristics** of fish. But there are more. Can you think of any others? I'll give you a hint. You know that all animals need to breathe **oxygen** in order to live. Fish do not have **lungs**, so we have to wonder how in the world—or in this case under water—do they breathe?

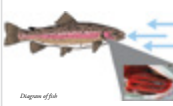


Diagram of fish

Look closely at this fish and see if you can spot its breathing machine. The respiratory or breathing organs of a fish are called **gills**. All fish have **gills**. They take water in through their mouths and the water passes over their **gills**. The **gills** take in **oxygen** from the water, allowing them to breathe. You will die quickly if you don't get enough air because you draw **oxygen** out of the air. But fish will die quickly if they do not have water, because their **oxygen** comes from water.

## Student Reader page 49–50

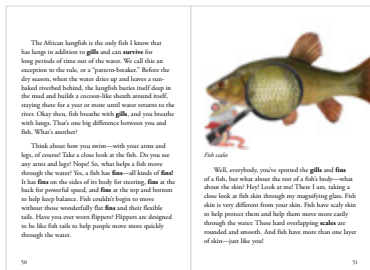
### Diagram of fish

Look closely at this fish and see if you can spot its breathing machine. The respiratory, or breathing, organs of a fish are called gills. All fish have gills. They take water in through their mouths and the water passes over their

gills. The gills take in oxygen from the water, allowing them to breathe. You will die quickly if you don't get enough air because you draw oxygen out of the air. But fish will die quickly if they do not have water, because their oxygen comes from water.

The African lungfish is the only fish I know that has lungs in addition to gills and can survive for long periods of time out of the water. We call this an exception to the rule, or a “pattern-breaker.” Before the dry season, when the water dries up and leaves a sun-baked riverbed behind, the lungfish buries itself deep in the mud and builds a cocoon-like sheath around itself, staying there for a year or more until water returns to the river. Okay then, fish breathe with gills, and you breathe with lungs. That's one big difference between you and fish. *What's another?*

- **Picture Pause:** Students add additional information about fish to Activity Page 5.3.

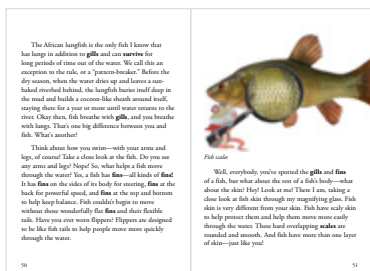


## Student Reader page 50

### Child snorkeling and fish swimming

Think about how you swim—with your arms and legs, of course! Take a close look at the fish. Do you see any arms and legs? Nope! So, what helps a fish move through the water? Yes, a fish has fins—all kinds of fins!

It has fins on the sides of its body for steering, fins at the back for powerful speed, and fins at the top and bottom to help keep balance. Fish couldn't begin to move without those wonderfully flat fins and their flexible tails. Have you ever worn flippers? Flippers are designed to be like fish tails to help people move more quickly through the water.



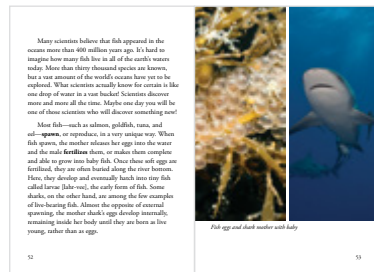
## Student Reader pages 51–52

### Fish scales

Well, everybody, you've spotted the gills and fins of a fish, but what about the rest of a fish's body—what about the skin? Hey! Look at me! There I am, taking a close look at fish skin through my magnifying glass. Fish skin is very different from your skin. Fish have scaly skin to help protect them and help them move more easily through the water. These hard overlapping scales are rounded and smooth. And fish have more than one layer of skin—just like you!

is very different from your skin. Fish have scaly skin to help protect them and help them move more easily through the water. These hard overlapping scales are rounded and smooth. And fish have more than one layer of skin—just like you!

Many scientists believe that fish appeared in the oceans more than 400 million years ago. It's hard to imagine how many fish live in all of the earth's waters today. More than thirty thousand species are known, but a vast amount of the world's oceans have yet to be explored. What scientists actually know for certain is like one drop of water in a vast bucket! Scientists discover more and more all the time. Maybe one day you will be one of those scientists who will discover something new!



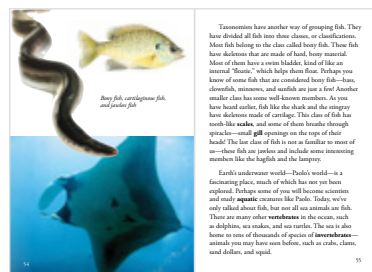
## Student Reader page 52

### Fish eggs and shark mother with baby

Most fish—such as salmon, goldfish, tuna, and eel—spawn, or reproduce, in a very unique way. When fish spawn, the mother releases her eggs into the water and the male fertilizes them, or makes

them complete and able to grow into baby fish. Once these soft eggs are fertilized, they are often buried along the river bottom. Here, they develop and eventually hatch into tiny fish called larvae [*lahr-vee*], the early form of fish. Some sharks, on the other hand, are among the few examples of live-bearing fish. Almost the opposite of external spawning, the mother shark's eggs develop internally, remaining inside her body until they are born as live young, rather than as eggs.

- **Picture Pause:** Students add additional information about fish to Activity Page 5.3.



## Student Reader page 55

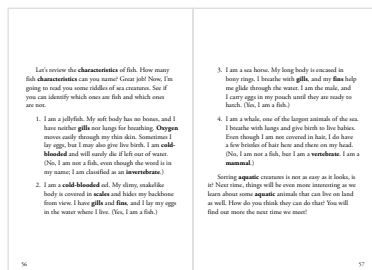
### Bony fish, cartilaginous fish, and jawless fish

Taxonomists have another way of grouping fish. They have divided all fish into three classes, or classifications. Most fish belong to the class called bony fish. These fish have

skeletons that are made of hard, bony material. Most of them have a swim bladder, kind of like an internal “floatie,” which helps them float. Perhaps you know of some fish that are considered bony fish—bass, clownfish, minnows, and sunfish are just a few! Another smaller class has some well-known members. As you have heard earlier, fish like the shark and the stingray have skeletons made of cartilage. This class of fish has tooth-like scales, and some of them breathe through spiracles—small gill openings on the tops of their heads! The last class of fish is not as familiar to most of us—these fish are jawless and include some interesting members like the hagfish and the lamprey.

Earth's underwater world—Paolo's world—is a fascinating place, much of which has not yet been explored. Perhaps some of you will become scientists and study aquatic creatures like Paolo. Today, we've only talked about fish, but not all sea animals are fish.

There are many other vertebrates in the ocean, such as dolphins, sea snakes, and sea turtles. The sea is also home to tens of thousands of species of invertebrates—animals you may have seen before, such as crabs, clams, sand dollars, and squid.



## Student Reader pages 56–57

### Jellyfish, eel, seashore, and humpback whales

Let's review the characteristics of fish. How many fish characteristics can you name?

Great job! Now, I'm going to read you some riddles of sea creatures. See if you can identify which ones are fish and which ones are not.

1. I am a jellyfish. My soft body has no bones, and I have neither gills nor lungs for breathing. Oxygen moves easily through my thin skin. Sometimes I lay eggs, but I may also give live birth. I am coldblooded and will surely die if left out of water. (No, I am not a fish, even though the word is in my name; I am classified as an invertebrate.)
2. I am a cold-blooded eel. My slimy, snakelike body is covered in scales and hides my backbone from view. I have gills and fins, and I lay my eggs in the water where I live. (Yes, I am a fish.)
3. I am a sea horse. My long body is encased in bony rings. I breathe with gills, and my fins help me glide through the water. I am the male, and I carry eggs in my pouch until they are ready to hatch. (Yes, I am a fish.)
4. I am a whale, one of the largest animals of the sea. I breathe with lungs and give birth to live babies. Even though I am not covered in hair, I do have a few bristles of hair here and there on my head. (No, I am not a fish, but I am a vertebrate. I am a mammal.)

Sorting aquatic creatures is not as easy as it looks, is it? Next time, things will be even more interesting as we learn about some aquatic animals that can live on land as well. How do you think they can do that? You will find out more the next time we meet!

- Have students take out Activity Page 3.2 and complete the remaining information in the “Fish” section on pages 1–4. Explain that they have to choose a fish to draw in the first box on page 1.

### DISCUSSING THE READ-ALOUD (10 MIN.)

1. **Literal.** How do fish move through the water?
  - » They use their fins and tails.
2. **Inferential.** Why are scales an important physical characteristic of fish?
  - » They offer protection and help them move through the water.
3. **Evaluative.** You and a friend are discussing whether or not a shark is a fish. How would you convince your friend that a shark is a fish?
  - » Like other fish, sharks live in water and have gills through which they take in oxygen; they have scaly skin; their tails and fins help them move through the water.

### WORD WORK: AQUATIC (5 MIN.)

- In the Read-Aloud, you heard Rattenborough say, “Today I’m going to teach you a little more about the aquatic species of animals that are classified as fish.”
- Say the word *aquatic* with me.
- *Aquatic* means “having to do with water.”
- Eli visited the pet store every weekend because he loved to watch the turtles swimming and playing in their aquatic environment.
- Have you ever seen something that was aquatic? Where were you? Would you consider yourself to be aquatic? What aquatic activities do you do? Be sure to use the word *aquatic* when you tell about it. (Ask two or three students. If necessary, guide and/or rephrase the students’ responses to make complete sentences: “At the creek we watched aquatic animals \_\_\_\_\_” or “I like the aquatic activity of \_\_\_\_\_.”)
- What’s the word we’ve been talking about? What part of speech is the word *aquatic*?
  - » *aquatic*; adjective

- **Use a Making Choices activity for follow-up.** Directions: "I am going to say a phrase that describes something that is aquatic or not aquatic. If the phrase is about something that is aquatic, say, 'That is aquatic.' If the phrase is not about something aquatic, say, 'That is not aquatic.'"

1. a monkey swinging from branch to branch in the jungle.

» *That is not aquatic*

2. raking leaves in the yard.

» *That is not aquatic*

3. swimming in a lake.

» *That is aquatic*

4. walking to the cafeteria.

» *That is not aquatic*

5. a dolphin jumping and diving in the waves.

» *That is aquatic*

6. the huge tank of ocean animals in the aquarium.

» *That is aquatic*

7. doing cartwheels and flips on the trampoline.

» *That is not aquatic*

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### PARTNER PRESENTATIONS (15 MIN.)

- Have students turn to the backside of Activity Page 5.3. Tell students that in the next part of the lesson they will be the interviewer and interviewee. The interviewer, the one who is asking the questions, will record their partner's answers. The interviewee, the one who is answering their questions, may use their notes on Activity Page 5.3 to answer the questions.
- Teacher model: Provide the students with the directions below very quickly, leave out words, and speak softly.
  - Explain that they are preparing to give small group presentations at the end of the unit. Remind students to speak clearly and slowly so the interviewer can record their ideas.
  - "Did you understand the directions?"
    - » No

- Teacher model: Provide the students with the directions again speaking clearly and slowly.
  - Explain that they are preparing to give small group presentations at the end of the unit. Remind students to speak clearly and slowly so the interviewer can record their ideas.
  - “Did you understand the directions?”
    - » Yes
  - What was the difference?
    - » Directions were given clearly and slowly
- Allow students time to review their notes as preparation for their interview.
- Pair students up to complete Activity Page 5.3.



### Check for Understanding

As students are completing the Student Interviews, walk around the room to monitor student presentations. Provide whole group feedback on clarity and pace.

## Activity Page 5.4



### Check for Understanding

If students could not identify what they learned from a text feature, then pull small groups aside and review Exit Passes of students with various answers (correct and incorrect). Ask students to identify correct answers.

**Note:** Copy student Exit Passes and take off student names.





## MULTILINGUAL/ENGLISH LEARNERS

### Reading

#### Understanding Text Structure

<b>Entering/Emerging</b>	Provide students with a list of text features and ask students yes or no questions such as, "Did you use the bold words in the Read-Aloud?"
<b>Transitioning/Expanding</b>	Pair expanding learners with bridging learners. Model answering one interview question on Activity Page 5.3.
<b>Bridging</b>	Pair bridging students together. Supply one sample interview question and supervise while students write an answer to the sample question.

End Lesson

Spelling Analysis Chart																Student Name
																1. ship
																2. shipped
																3. shipping
																4. patch
																5. patched
																6. patching
																7. rub
																8. rubbed
																9. rubbing
																10. finish
																11. finished
																12. finishing
																13. grab
																14. grabbed
																15. grabbing
																16. hop
																17. hopped
																18. hopping
																19. plan
																20. planned
																21. planning
																22. discuss
																23. discussed
																24. discussing
																25. stretch
																26. stretched
																27. stretching
																28. submit
																29. submitted
																30. submitting
																<b>Challenge Word:</b> give
																<b>Challenge Word:</b> live

## SPELLING ANALYSIS DIRECTIONS

### Unit 2, Lesson 5

- Students are likely to make the following errors:
  - doubling all of the final consonants before adding the suffixes
  - not doubling any of the final consonants before adding the suffixes
- While either of the above student-error scenarios may occur, you should still be aware that misspellings may be due to many other factors. You may find it helpful to record the actual spelling errors that the student makes in the analysis chart. For example: Is the student consistently making errors on specific vowels? Which ones?
  - Is the student consistently making errors on double consonants?
  - Is the student consistently making errors at the end of the words?
  - Is the student consistently making errors on particular beginning consonants?
  - Did the student write words for each feature correctly?
  - Also, examine the dictated sentence for errors in capitalization and punctuation.

## 6

# From Water to Land

## PRIMARY FOCUS OF LESSON

### Speaking and Listening

Students will identify clue words used to sequence the stages of metamorphosis. [RI.3.8]

### Reading

Students will record key information about amphibians. [W.3.2]

Students will demonstrate an understanding of the Tier 2 word *hibernate*. [L.3.4]

### Language

Students will produce compound sentences. [L.3.1i]

Students will determine the meaning of words formed when *-ed* and *-ing* are added to a known root word. [L.3.4b, L.3.4c]


## FORMATIVE ASSESSMENT

Activity Page 6.4

**Compound Sentences** Write compound sentences. [L.3.1i]



## LESSON AT A GLANCE

	Grouping Recommendations	Time	Materials
Speaking and Listening (35 min.)			
Introducing the Read-Aloud	 Small Group	5 min.	<input type="checkbox"/> Activity Pages 6.1, 6.2 <input type="checkbox"/> Visual Support 6.1
Presenting the Read-Aloud	Whole Group	20 min.	
Discussing the Read-Aloud	Independent	10 min.	
Reading (45 min.)			
Introducing the Reading	Whole Group	5 min.	<input type="checkbox"/> <i>Rattenborough's Guide to Animals</i> <input type="checkbox"/> Activity Pages 3.2, 6.3
Independent Reading	Independent	20 min.	
Discussing the Reading	Whole Group	15 min.	
Word Work: <i>Hibernate</i>	Whole Group	5 min.	
Language (40 min.)			
Spelling	Whole Group	20 min.	<input type="checkbox"/> Activity Pages 6.4 <input type="checkbox"/> Visual Support 6.2
Grammar: Compound Sentences	Whole Group	20 min.	
Take-Home Materials			
Caregiver Letter			<input type="checkbox"/> Take-Home Pages 6.1, 6.2
Identifying Compound Sentences			

## ADVANCE PREPARATION

### Speaking and Listening

- On chart paper, create the following or prepare to display Visual Support 6.1.

#### ➤ Visual Support 6.1

<b>Text Structures</b> <b>How does the author organize information in a text?</b>		
<b>Different Types of Text Structures</b>	<b>Defined</b>	<b>Clue Words</b>
Time	Explains when an event took place	Before Now Later
Sequence	Explains the order in which events happened	First Next Then After Last Finally
Cause and Effect	Explains why things happen	Because Then If So As a result When
Comparison	Shows difference and similarities between two or more things	However On the other hand Like Unlike Same

- Identify the following digital images online at [learning.amplify.com](https://learning.amplify.com) to project during the Read-Aloud: 6A-1–6.

## Language

- Write the following sentences on the board for use during the Grammar lesson:
  1. Dancers wear special shoes, and football players also wear special shoes.
  2. Jamal chose chocolate cake for dessert, and his brother chose ice cream.
  3. Squirrels and dogs are furry animals.
  4. Fish swim in the lake and lay eggs.
- On chart paper, create the following or prepare to display Visual Support 6.2

### > Visual Support 6.2

Root Word	-ed	-ing

## Universal Access

- Write the following words in the center of three different pieces of poster board: *Change*, *Transformation*, *Metamorphosis*. Place each poster in different corners of the room. Next, students perform a gallery walk. They walk silently around the room and write what they think the word means or what it reminds them of. They can write a sentence, words, phrases, or draw a simple picture. Each student should write on each poster board.
- Show a time-lapse video of a metamorphosis, readily available on the Internet. A good video to show is the metamorphosis of a caterpillar into a butterfly (or a tadpole into a frog if you can find it). Then write on the board: "The caterpillar *transformed* into a butterfly. The caterpillar *changed* into a butterfly over time."
- Then preview some of the sequence words: "First, I entered the classroom. Next, I sat down at my desk. Then, the teacher started talking to us." Students can repeat aloud, emphasizing the first word of the sentence based on teacher modeling.
- To ensure that all students have the opportunity to contribute during Turn and Talk and Think-Pair-Share exchanges, provide students with a signal such as folding their hands or raising a hand to indicate when both partners have added to the conversation.

## Lesson 6: From Water to Land

## Speaking and Listening



## Primary Focus

Students will identify clue words used to sequence the stages of metamorphosis. [RI.3.8]

## VOCABULARY “AMPHIBIANS: FROM LAND TO WATER”

- The following are core vocabulary words used in this lesson. Preview the words with the students before the lesson. Students are not expected to be able to use these words immediately, but with repeated exposure throughout the lessons they will acquire a good understanding of most of the words. Students may also keep a “unit dictionary” notebook along with definitions, sentences, and/or other writing exercises using these vocabulary words.

**amphibian, n.** an animal that can live on land and in water (**amphibians**)

**shed, v.** to drop, cast off, or separate from something

**transformation, n.** changing appearance

Vocabulary Chart for “Amphibians: From Water to Land”

Type	Tier 3 Domain-Specific Words	Tier 2 General Academic Words
Vocabulary	amphibian	shed transformation
Spanish Cognates	anfibio	transformación
Multiple-Meaning		shed
Sayings and Phrases		



## INTRODUCING THE READ-ALOUD (5 MIN.)



### Small Group

- **Common Bond:** Have students take out Activity Page 6.1 and provide time for students to complete.
- Tell students that in today's Read-Aloud, they will learn more about another group of animals: amphibians. Explain to students that the word *amphibian* means "living two lives" or "living in two worlds."
- **Think-Pair-Share:** Ask students to predict what they think "living two lives" or "living in two worlds" means as it pertains to the amphibians animal group. Remind students to signal when both partners have contributed to the conversation. As students conclude their conversations, ask them to share one prediction their partner shared with them, noting key words or ideas on a whiteboard or chart paper.
  - » live in two places at the same time, live in water and on land, born in water and live on land
- Explain that one way to understand the text is to think about the connections to the text. Readers are always thinking: How does this event connect to the next event? Or what are the steps in this text? Authors share information in a few different formats.

### > Visual Support 6.1

- Project or display the Text Structures chart (Visual Support 6.1). Read aloud the various text structures listed.
- Explain that during today's lesson the focus will be on sequence.
- "As you listen today, keep an ear out for the Clue Words from the chart. When you hear one of the sequencing key words, raise your hand."
- Have students turn to Activity Page 6.2 for whole group completion during the Read-Aloud.

### Activity Pages 6.1 and 6.2



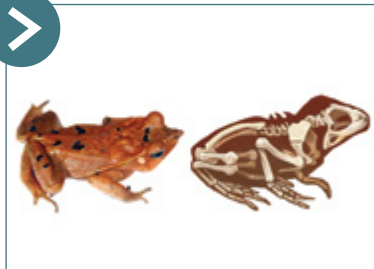


**Show Image 6A-1**  
**Rainforest with Tabitha**

I'm back, everybody, and today I've brought some excellent slides of Tabitha Toad and Paolo Piranha to show you, so we can compare how scientists classify them in the taxonomy of animals. Tabitha is not a fish,

but she and Paolo are similar in many ways. It's true that Tabitha and Paolo don't look very much alike, but as the saying goes, you can't judge a book by its cover. When classifying animals, scientists often search for similarities as well as differences.

One similarity between Tabitha and Paolo is that, as you know, they are both members of the animal kingdom. You've learned that scientists classify animals as cold-blooded or warm-blooded. Does anyone know which category Tabitha belongs in? Do you think that her body maintains a constant internal temperature like yours, or does her temperature adjust to her surroundings like a fish does? Yes, her body temperature fluctuates, so she is classified as a cold-blooded animal like Paolo. That's another way that they are similar to one another. They are both animals and they are both cold-blooded.



**Show Image 6A-2**  
**Toad, and toad with vertebrae**

Now take a closer look at Tabitha Toad. Can you tell just by looking at her whether she is cold-blooded or warm-blooded? No, but once you learn a bit more about her habits you will understand how scientists determined that

she is cold-blooded. You know that scientists also classify animals according to whether or not they have backbones. Think about what you learned about Tabitha's backbone. Yes, there it is! Just like you and Paolo, Tabitha has vertebrae, a column of bones, all down her back. Who remembers what scientists call animals with backbones? Right! She's a vertebrate!

So, Paolo and Tabitha are both cold-blooded vertebrates. Does anyone remember any other fish characteristics? Good answers! Make a prediction about which characteristics Tabitha shares with Paolo. Do Tabitha and other toads have gills, scales, or fins? Do they lay eggs? Or live in water? These are rather tricky questions because toads belong to a group of animals that change during their lifetime. Their bodies change, their habits change, and their habitats change. I'm going to share lots of information with you today, so get ready for some miraculous surprises.

Before we go any further, I want to introduce the name of Tabitha Toad's group of animals. Some of you may know it already. How do scientists classify toads? Yes, they are members of a class of animals known as **amphibians**. Most amphibians spend part of their lives in water and part on land.

## D Differentiation

### Support

Reread the sentence: "Most amphibians spend part of their lives in water and part on land." The text explains how frogs begin their lives in water and, as they grow, they move on land.

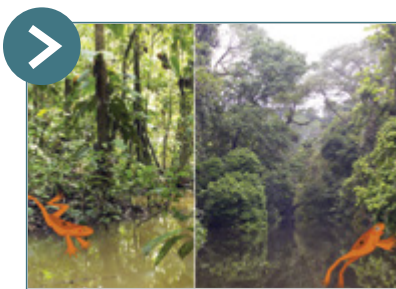
### Challenge

Have students analyze and explain the text structure the author used in the first part of the Read-Aloud (compare/contrast).

## D Differentiation

### Support

Remind students that we learned about *aquatic* in the lessons about fish. *Aquatic* means having to do with water.



### Show Image 6A-3 Tabitha jumping in and out of the water

Toads love the water. Like all amphibians, Tabitha began her life as an aquatic animal, living in water. She spends most of her time on dry land now. In fact, she loves the woodlands, but every spring she makes her way to a small freshwater pond in the wetland.

First, she will lay her eggs. Just before I took this picture, she laid a few thousand eggs in the shallow water. Toads must lay their eggs in water because their soft jelly like coverings can easily dry out in the air. Come and see!

- Distribute paper. Have students look at Image 6A-3 and write one sentence about this picture using at least three nouns, but less than thirteen words.
  - » Answers may vary but could include "Amphibians live in water and on land," "Frogs are amphibians because they live in water and on land," or "Frogs and toads are amphibians."
- **Picture Pause:** Stop to identify *first* as a sequence word in the text. As a whole group, write down the following sentence from the text onto Activity Page 6.2:
  - *First*, she will lay her eggs.



### Check for Understanding

If students did not raise their hand when *first* was read aloud, then review the Text Structure chart for the key words for sequencing.



#### Show Image 6A-4

##### Toad eggs

Most of the eggs will never hatch. Can anyone think of why this is so? There are many ways that eggs can be destroyed: by becoming a tasty meal for a predator, being washed away in a flood, or drying up if there's not enough rain.

Next, a few hundred toad eggs will hatch into tadpoles. Tadpoles have gills, just like fish, and use their gills to breathe underwater. They are herbivores and eat tiny aquatic plants, but they're in constant danger because other fish can swallow them whole.

- **Picture Pause:** Stop to identify *next* as a sequence word in the text. As a whole group, write down the following sentence from the text onto Activity Page 6.2:

- *Next*, a few hundred toad eggs will hatch into tadpoles.



#### Show Image 6A-5

##### Tadpole's metamorphosis

Then, the tadpoles will morph, or change, into very different looking creatures, young amphibians, with very different habits.

This transformation process of changing appearance from one stage to another is

called metamorphosis. Skin has covered their gills and they grew lungs for breathing air on land. Tiny legs have also appeared.

- **Picture Pause:** Stop to identify *then* as a sequence word in the text. As a whole group, write down the following sentence from the text onto Activity Page 6.2: Then, the tadpoles will morph, or change, into very different looking creatures, young amphibians, with very different habits.

---

Then, the tadpoles will morph, or change, into very different looking creatures, young amphibians, with very different habits.

Last, young amphibians will grow into adult toads. Those amphibians that survive to adulthood will be hopping and crawling around on land, searching for food, just like Tabitha. Plant life will no longer interest them. Instead, they'll snatch up bugs, worms, spiders, and slugs with their sticky tongues. Most adult amphibians are carnivores. Some of the toad's larger relatives, like bullfrogs, even eat small mammals and birds. The world's biggest frog is the West African Goliath frog. It is the size of a pet cat and eats other frogs, baby crabs, and snakes.

- 
- **Picture Pause:** Stop to identify *lastly* as a sequence word in the text. As a whole group, write down the following sentence from the text onto Activity Page 6.2:

- *Last*, young amphibians will grow into adult toads.

---

Frogs and toads are the largest group of amphibians. Because they have so many of the same characteristics, many people have a difficult time telling them apart. The main difference between them is that toads' skin is a bit drier than frogs' skin. Remember that although together they make up the largest group of amphibians, they are not the *only* group of amphibians.

---

**D** Differentiation

Challenge

Research and report on other animals that go through metamorphosis.



**Show Image 6A-6**  
**Fish, early amphibian, and fossil**

Most scientists generally agree that amphibians evolved from an early group of fish with lobed, or fleshy, fins hundreds of millions of years ago, long before the dinosaurs. Scientists continue to study fossil remains, trying to figure out the exact way in which this slow change occurred over a long period of time.


Next time we meet, you will learn all about the way scientists classify snakes like Anna Anaconda. I'll give you a hint. Remember when I said that salamanders are often mistaken for lizards, but that lizards belong to a different group of animals? Well, Anna belongs to the same group as lizards. Does anyone want to predict the name of that group? Wait and see if you're right. For now, I want to congratulate you all on being such good sleuths, or detectives! Any taxonomist would love to have your help in classifying Earth's animals. See you soon!



**MULTILINGUAL/ENGLISH LEARNERS**  
**Reading**  
Evaluating Language Choices

<b>Entering/Emerging</b>	Write on the board a sequence with arrows. First > Second > Third. First > Next > Then > Lastly. Provide a personal example students can relate to: First, I _____. Next, _____. Then _____. Lastly, _____.
<b>Transitioning/Expanding</b>	In pairs, have students practice using sequence words to describe making a sandwich or getting ready for school.
<b>Bridging</b>	Have students write <i>first</i> , <i>next</i> , <i>then</i> , and <i>lastly</i> on index cards and arrange them in sequence. Have students practice creating sentences using these words.

## DISCUSSING THE READ-ALoud (10 MIN.)

1. **Literal.** After toads become adults they live on dry land. Why do they go back to the wetlands every spring?
  - » to lay eggs
2. **Inferential.** In the Read-Aloud, you learned that a tadpole breathes through gills like fish because it lives mostly underwater. How do adult frogs breathe?
  - » with lungs and through their skin
3. **Evaluative.**  *Think-Pair-Share:* *Amphibian* means “living two lives” or “two worlds.” Describe the transformation frogs go through in their lifetimes. Try to use signal words to describe the sequence of their transformation. Students may use their notes from Activity Page 6.2.
  - Have students complete Activity Page 6.2 by drawing a picture to show the stages of metamorphosis.



### Check for Understanding

If students could not identify pictures that represent each stage of metamorphosis, then review the location of the sequence words in the text and provide students with possible picture options.



## Differentiation

### Support

Pull students aside to assist with the drawings on Activity Page 6.2.

## Lesson 6: From Water to Land

# Reading



### Primary Focus

Students will record key information about amphibians. [W.3.2]

Students will demonstrate an understanding of the Tier 2 word *hibernate*. [L.3.4]

### VOCABULARY FOR READING “AMPHIBIANS”

- The following are vocabulary words used in this lesson. Preview the words with the students before the lesson and refer back to them at appropriate times. The words also appear in the glossary in the back of the student reader.

**amphibian, n.** an animal that can live on land and in water (amphibians)

**hibernate, v.** to spend a season with slow or no movement of body functions (hibernating)

**survive, v.** to continue to live (survives)

**tadpole, n.** the early form of frogs and toads that has gills and a tail, but no legs (tadpoles)

Vocabulary Chart for “Amphibians”

Type	Tier 3 Domain-Specific Words	Tier 2 General Academic Words
Vocabulary	amphibian tadpole	hibernate survive
Multiple-Meaning		
Sayings and Phrases		

### D Differentiation

#### Support

Allow students to use their Reader to review the Reading text for key vocabulary words.

### INTRODUCING THE READING (5 MIN.)

- “What are some key vocabulary words that you heard during the Read-Aloud?” List student responses on the board. Ask students to define each word.
  - Possible student responses: *amphibian* (live in water and on land); *morph* (to change form); *aquatic* (having to do with water), *tadpole* (the early stages of a frog that has gills and no legs).



- Write the following vocabulary words on the board if not already listed. Discuss each definition aloud.
  - **amphibian**—an animal that can live on land and in water (**amphibians**)
  - **hibernate**—to spend a season with slow or no movement of body functions (**hibernating**)
  - **survive**—to continue to live (**survives**)
  - **tadpole**—the early form of frogs and toads that has gills and a tail, but no legs (**tadpoles**)

### INDEPENDENT READING (20 MIN.)

- Tell students that today's chapter is called "Amphibians."
- Ask students to turn to the Table of Contents, locate the chapter, and then turn to the first page of the chapter.
- Assign students to read the chapter to find out what special characteristics amphibians have that permit them to live both in water and on land. Remind them that the bolded words in the chapter are found in the glossary and match words previewed. Some words may appear in different forms in the chapter.
- Pass out Activity Page 6.3. As students read, they will record information about amphibians on their graphic organizer.



#### MULTILINGUAL/ENGLISH LEARNERS Reading Condensing Ideas

<b>Entering/Emerging</b>	With a small group, record key information about amphibians on Activity Page 6.3.
<b>Transitioning/Expanding</b>	With a partner, students will record key information about amphibians on Activity Page 6.3.
<b>Bridging</b>	Independently, students will complete Activity Page 6.3. Teacher verbally points out example if needed.



#### Check for Understanding

If students did not identify key features of amphibians, then pull students aside to review key points in the reading.

### Activity Page 6.3



### D Differentiation

#### Challenge

Have students research additional information about amphibians to add to their web on Activity Page 6.3.

#### Support

Pull a small group of students aside to read the chapter with teacher guidance. Use the Guided Reading supports during the reading.

# 7 Amphibians



Greetings once again from your pal and animal expert, Rattenborough! Are you ready to learn about another group of animals within the animal **kingdom**? The group we are going to talk about today is really interesting. They live both in water and on land. This group of animals is called **amphibians**. The word **amphibian** comes from Latin meaning “both sides of life.”

**Amphibians** are classified into three more specific groups. Frogs and toads are the largest group. Salamanders and newts make up another. Animals in the third group do not have legs, so they look more like large snakes. We don’t know as much about this group of **amphibians** because they live mostly underground.

To understand the **life cycle** of an **amphibian**, let’s take a closer look at an American toad.

Like all **amphibians**, toads are **cold-blooded**. An **amphibian’s** body **temperature** changes as the outdoor **temperature** changes. Some **amphibians hibernate** during the winter. Some toads dig deep underground. Other **amphibians** like frogs bury themselves in mud at the bottom of a pond. **Hibernating amphibians** can **survive** for months. They do not eat or move, using only the fat stored in their body to stay alive. Frogs and toads—and all **amphibians**—are also **vertebrates**.

## GUIDED READING SUPPORTS

### Pages 58–59

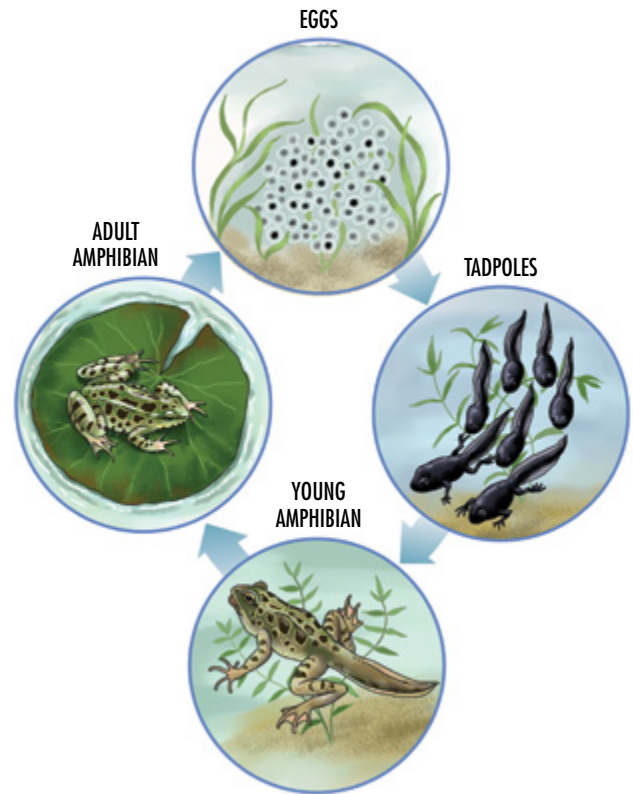
- Read the title of the chapter together as a group: “Amphibians.”
- “Where in the Reader could we find the definition of *amphibian* quickly?”
  - » the glossary
- Ask students to find the word.
- Call on one student to identify where the word is and read the definition. Note for students that the plural form of the word, *amphibians*, appears at the end of the definition.
- Redirect students’ attention to **page 58**. Point out to students that both *amphibian* and *amphibians* appear on this page and in this chapter.

- Ask students to read **page 58** to themselves to find the answer to the question: “What is unique about where amphibians live?”
- When students have finished reading, restate the question and ask students to answer.
  - » Amphibians live both in water and on land.
- Ask students to read **page 59** to themselves to learn whether amphibians are warm-blooded or cold-blooded, vertebrates or invertebrates.
- When students have finished reading, restate the question and ask students to answer.
  - » Amphibians are cold-blooded vertebrates.
- Ask students, “What do some amphibians do during the winter? How?”
  - » Some amphibians hibernate by digging deep underground or burying themselves at the bottom of a pond.

A toad's **life cycle** begins as one of thousands of soft, slimy eggs. The mother lays her eggs close to shore in a pond, lake, or calm spot in a river or stream.

But most of these eggs will never hatch. Instead, they will be eaten by fish or other animals. If the water moves the eggs away from the shore and into direct sunlight, the eggs will dry out and die.

Out of the thousands of eggs laid, a few hundred toad eggs manage to hatch into **tadpoles**. A **tadpole** is very fragile. Its young body is made up mainly of a mouth, a tail, and **gills**. At this stage, **tadpoles** are **aquatic**. Like fish, they use **gills** to breathe underwater.



*The **life cycle** of a frog or toad*

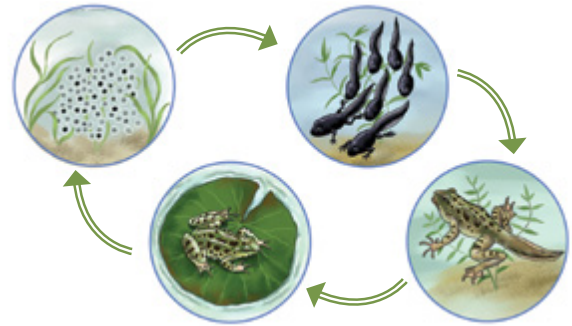
## Pages 60–61

- Ask students to read **pages 60–61** to themselves to find the answer to the question: “What happens in the first parts of a toad’s life cycle?”
- When students have finished reading, restate the question and ask students to answer.
  - » The mother lays her eggs near shore in a pond, lake, or calm spot in a river or stream. The eggs that hatch produce tadpoles that are very fragile and use gills to breathe underwater.
- Direct students’ attention to the images on **page 61** and ask what parts of the image represent the first parts of a toad’s life cycle.
  - » the image of the eggs and the image of tadpoles

After a while, **tadpoles** begin swimming around and eating tiny **aquatic** plants. **Tadpoles** tend to stay together in **schools**, like fish. However, this makes it more likely that other animals will be able to catch and eat them. Most **tadpoles** end up as fish snacks.

If a **tadpole survives** for a month, skin will begin to grow over its **gills**. After about six to nine weeks, the **tadpole** also starts to grow little legs. As its body changes, the young frog or toad starts to look less like an **aquatic** animal and more like a land animal.

After a few months, a toad will make its way out of the water to land. At this stage, it may still have a tail, but that won't last long. By this time, its **gills** have become lungs. That means the toad now breathes **oxygen** from the air instead of **oxygen** from the water, like fish. Soon, it will be a full-grown adult toad living and hopping around on land. Adult **amphibians** are **carnivores**, eating insects, small **reptiles**, and even mice.



*Bottom: A young **amphibian** leaving the pond for land.  
Top: The **life cycle** of a frog or toad*

## Pages 62–63

- Have students read **pages 62–63** to learn about the other parts of a toad's life cycle.
- When students have finished reading, ask them to describe the other parts of a toad's life cycle.
  - » Tadpoles begin swimming around and eating, staying together in schools. After a month, skin will grow over the gills and legs will start to grow. After a few months, the tadpole is a frog or toad and makes its way onto land. Its gills have been replaced by lungs so it can breathe on land.
- Have students read the caption and look at the images on **page 63** to identify which images represent the other parts of a frog or toad's life cycle.
  - » the middle two and the bottom one

Adult toads are very good swimmers and can even swim underwater. But they cannot use their lungs to breathe underwater. Instead, their thin, moist skin absorbs **oxygen** from the water.

**Amphibians** are a very interesting animal group. **Amphibians** are animals that have both **gills** and lungs at different times in the life cycle. As adults, they live on land but lay eggs in the water. The Latin meaning of the word **amphibian** makes perfect sense!



*This toad may be preparing to **hibernate** for the winter.*

### Pages 64–65

- Ask students to read **pages 64–65** to fill in the blank in the following sentence: “Adult toads’ thin, moist skin \_\_\_\_\_ oxygen from the water.”
- When students have finished reading, repeat the sentence and call on a student to fill in the blank.
  - » absorbs
- Have students read the caption and look at the image on **page 65**.
- As a small group, add information about amphibians to Activity Page 6.3.

## DISCUSSING THE READING (15 MIN.)

- Bring students from small groups back together as a class.
- Ask students what information they added to Activity Page 6.3. Remind students that they may add information about amphibians shared by classmates to their web.
- Independently, have students complete the remaining information in the “Amphibian” section on Activity Page 3.2. Remind students to choose an amphibian to draw on page 1.

## WORD WORK: *HIBERNATE* (5 MIN.)

- In the Read-Aloud, you heard, “[Hibernate]ing amphibians can survive for months.”
- Say the word *hibernate* with me.
- To hibernate means to spend a season with slow or no movement of body functions.
- Animals that hibernate can live without food or water while resting or sleeping for a long time.
- Do you know an animal that hibernates? When does it hibernate? Be sure to use the word *hibernate* when you tell about it. (Ask two to three students. If necessary, guide and/or rephrase students’ responses to make complete sentences: “A \_\_\_\_\_ hibernates during . . .”)
- What’s the word we’ve been talking about? What part of speech is the word *hibernate*?

» *hibernate; verb*

- **Use a Creating Sentences activity for follow-up.** Tell students that they will create a complete sentence using the word *hibernate* along with the words provided. You may wish to complete the first one for students as an example.

1. amphibians, winter

» Some amphibians hibernate during the winter.

2. frogs, pond

» Some frogs hibernate by burying themselves in mud in a pond.

## Activity Page 3.2



3. toads, dig

» Some toads hibernate by digging deep underground.

4. fat, survive

» Amphibians that hibernate can survive by using fat from their bodies.

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## Lesson 6: From Water to Land Language



### Primary Focus

Students will produce compound sentences. [L.3.1i]

Students will determine the meaning of words formed when *-ed* and *-ing* are added to a known root word. [L.3.4b, L.3.4c]

### GRAMMAR: COMPOUND SENTENCES (20 MIN.)

- Remind students they have learned to write simple sentences (those that contain one subject and one predicate). In grammar lessons, through the remainder of the year, they will learn to write different kinds of sentences that are more elaborate. Today, they will take the first step to writing different kinds of sentences by learning to identify compound sentences. Compound sentences are sentences that contain more than one independent clause.
- Explain that an independent clause is a clause, or part of a sentence, that has a subject and a predicate. An independent clause can stand alone and make sense as a separate sentence.

**Note to Teacher:** Some may confuse compound sentences with other types of sentences that simply include a compound subject or a compound predicate. The following examples are offered to provide clarity:

**Compound subject:** Both Juanita and Martha like ice cream for a snack. (Two subjects with a single predicate)

**Compound predicate:** Juanita ate ice cream and drank juice for snacks. (A single subject with two predicates)

**Compound sentence:** Juanita prefers chocolate ice cream, but Martha likes vanilla ice cream better. (Two independent clauses, each with its own subject and predicate)



- Direct students' attention to the first sentence you placed on the board in advance.

Dancers wear special shoes, and football players also wear special shoes.

- Tell students that this is a compound sentence because it has more than one independent clause. We know this because the sentence has two separate parts, each with its own subject and predicate. Ask students what the subject and predicate are in the first clause or part; mark the first clause as follows to clearly indicate the subject and predicate:

**S**      **P**  
Dancers | wear special shoes, and football players also wear special shoes.

- Ask students to identify the subject and predicate in the second clause or part and mark the remainder of the sentence.

**S**      **P**                      **S**                      **P**  
Dancers | wear special shoes, and football players | also wear special shoes.

- Explain that this compound sentence uses the conjunction *and* to link the two independent clauses. Draw two lines under the conjunction *and*, pointing out that the use of this conjunction is another clue that this may be a compound sentence.

**S**      **P**                      **S**                      **P**  
Dancers | wear special shoes, and football players | also wear special shoes.

- Emphasize that the real test of whether a sentence is a compound sentence is whether it has more than one independent clause joined by a conjunction. Tell students that they can prove that the clauses are independent clauses if each clause can stand alone as a separate sentence with its own subject and predicate. Separate the two sentences to illustrate this point: *Dancers wear special shoes. Football players also wear special shoes.*
- Direct students' attention to the next sentence on the board, marking and discussing it in the same manner.

**S**      **P**                      **S**                      **P**  
Jamal | chose chocolate cake for dessert, and his brother | chose ice cream.

- Point out, however, the use of the conjunction *and* in a sentence does not automatically mean that a sentence with *and* is a compound sentence.

- Direct students' attention to the third sentence you placed on the board in advance.

Squirrels and dogs are furry animals.

- Ask students if there are one or two subjects in the sentence. There are two. Ask students what the two subjects are. (*squirrels* and *dogs*) Ask students if there are one or two predicates in the sentence. There is one. Ask students what the predicate is. (*are furry animals*) Mark the sentence as follows:

**S                    S            P**  
Squirrels and dogs | are furry animals.

- Tell students that this sentence is not a compound sentence. It has two subjects, but it only has one predicate. Even though the conjunction *and* is used, this sentence does not have more than one independent clause. Therefore, this is not a compound sentence.
- Ask students how you might rewrite the sentence so that it is a compound sentence. The sentence already has two subjects. It needs an additional predicate. The sentence *Squirrels are furry animals, and dogs are furry animals* is a compound sentence because it has two subjects and two predicates.
- Direct students' attention to the third sentence you placed on the board in advance.

Fish swim in the lake and lay eggs.

- Ask students if there are one or two subjects in the sentence. There is one. Ask students what the subject is. (*fish*) Ask students if there are one or two predicates in the sentence. There are two. Ask students what the predicates are. (*swim in the lake* and *lay eggs*) Mark the sentence as follows:

**S                    P                                    P**  
Fish | swim in the lake and lay eggs.

- Ask students if this is a compound sentence. It is not a compound sentence. It has two predicates, but it only has one subject. This means there is not more than one independent clause. Therefore, this is not a compound sentence.

- Ask students how you might rewrite the sentence so that it is a compound sentence. The sentence already has two predicates. It needs an additional subject. The sentence *Fish swim in the lake, and fish lay eggs* is a compound sentence because it has two subjects and two predicates.
- Have students turn to Activity Page 6.4 and complete it as a teacher-guided activity.
- For additional practice, see Pausing Point pages PP.6 and PP.7.

## SPELLING (20 MIN.)

- Refer to the previously created chart or display Visual Support 6.2.

### > Visual Support 6.2

Root Word	-ed	-ing

- When introducing the words, use these procedures:

### Step 1: Introducing the Root Words

- Tell students these are the words on which they will be assessed. This week, students will be responsible for spelling the root words plus the forms of these words when the suffixes *-ed* and *-ing* are added. Explain that all of the spelling words this week are verbs to which students will be adding different suffixes.

## D Differentiation

### Support

Brainstorm with students the benefits and disadvantages of being an amphibian.

### Challenge

Have students write an opinion piece supporting their position.

- As you introduce each of the spelling words, write it in the table, pronouncing each word as you write it.

Root Word	-ed	-ing
smile		
rake		
file		
vote		
dine		
quote		
raise		
tire		
translate		
prepare		

- Make sure to explicitly point out that the first word is the root word. Explain that a root word is what a word is called before any prefixes or suffixes are added to the word.
- When you reach the multisyllable words (*translate*, *prepare*), model for students how to chunk the word into syllables to say and spell the word. Explain that when we have words with more than one syllable, it can be helpful to divide a word into syllables if we don't know how to read or spell it.
- Write the word *translate* in the table.
- Ask students to tell you the vowel sounds in the word. Point out that this word has a CVCe pattern with the 'a\_e' separated vowel digraph standing for one sound, /ae/. You may want to use two fingers to simultaneously point to the 'a' and 'e' as you did in Unit 1 when reviewing the CVCe syllable pattern.
- Underline the vowels in the word like this:
  - tralslate
- "How many consonants are between the first two vowels?"
  - » three

- Tell students that when there are three consonants between two vowels, the word can be divided into syllables before or after the second consonant.
- Draw a line between the letters 's' and 'l' like this:
  - trans | late

**Note:** For decoding and spelling purposes, it is not particularly important whether you divide this word as noted above or as “tran | slate.” In fact, you will find this word syllabicated either way in different dictionaries.

- Cover the second syllable, 'late,' and tell students that if the word is divided in this way, you would read this first syllable as /tranz/, since syllables ending with consonants are generally pronounced with the short vowel sound.
- Then, cover the first syllable, 'trans,' and ask students to read the last syllable, /laet/. Again, remind students that this word has a CVCe pattern (i.e., separated vowel digraph, so the 'a\_e' stands for one sound, /ae/).
- Tell students that they can now easily see the parts of the word and it is easier to decode.
- Write the word *prepare* in the table.
- Ask students to tell you the vowels in the word. Remind students that this word has a CVCe pattern with the 'a\_e' separated vowel digraph standing for one sound, /air/.
- Underline the letters that represent the vowel sounds in the word like this:
  - prearee
- “How many consonants are between the first two vowels?”
  - » one

- Tell students that when there is one consonant between two vowels, the word can be divided into syllables before or after that single consonant.
- Draw a line between the letters 'e' and 'p' like this:
  - pre | pare
- Cover the second syllable, 'pare,' and tell students that if the word is divided in this way, you would read this first syllable as /pree/, since syllables ending with vowels are generally pronounced with the long vowel sound.
- Then, cover the first syllable, 'pre,' and ask students to read the last syllable, 'pare,' Prompt students in blending and saying the word, /pree pair/, and point out this word sounds like an English word that you recognize.


## Step 2: Adding the Suffixes *-ed* and *-ing* to the Root Words

- Tell students that you will now complete the remainder of the table by adding the suffixes *-ed* and *-ing* to each root word. Remind students that each root word is a verb and ask what the suffix *-ed* on the end of a verb signals.
  - » past tense; the action has already happened
- Ask students what the suffix *-ing* signals. (present tense; ongoing action that is still happening)
- Starting with the word *smile*, add suffixes *-ed* and *-ing* in the table.
- **Turn and Talk** Have students turn to a partner and share the meanings of the words. Remind them to use the root word and suffixes as clues to determining the meaning of each word.
- Have student volunteers share their answers.
  - » smiled: to smile in the past; smiling: to smile now
- Working with remaining root words, add the suffixes *-ed* and *-ing*. Point out to students that when words end with CVCe (Consonant-Vowel-Consonant-e), the final 'e' must be dropped before adding *-ed* or *-ing*.
- Also, point out to students that adding *-ed* sometimes adds a syllable to the word (*voted*, *quoted*, *translated*) and sometimes does not (*smiled*, *raked*, *filed*, *dined*, *tired*, *prepared*); adding *-ing* always adds a syllable to the word.
- Additionally, point out that the suffix *-ed* is pronounced /t/ in *raked*. The suffix *-ed* is pronounced /d/ in *smiled*, *filed*, *dined*, *raised*, *tired*, and *prepared*. In *voted*, *quoted*, and *translated*, the suffix *-ed* is pronounced /ed/ and adds an additional syllable.

Root Word	<i>-ed</i>	<i>-ing</i>
smile	smiled	smiling
rake	raked	raking
file	filed	filing
vote	voted	voting
dine	dined	dining
quote	quoted	quoting
raise	raised	raising
tire	tired	tiring

translate	translated	translating
prepare	prepared	preparing
<b>Challenge Word:</b> does <b>Challenge Word:</b> done		

- Explain that Challenge Words are words that are used very often. They may not follow spelling patterns and need to be memorized.
- Tell students that they will need to know how to spell these words as they will be included in their spelling assessment. Say each word using correct pronunciation: *does*—/dəz/ and *done*—/dɒn/. Use the Challenge Words in sentences as examples for students: “An amphibian does not eat or move when it is hibernating.” “The cookies are *done*.”
- Tell students that they will share this week’s spelling words on Take-Home Page 6.2 with an adult.


**MULTILINGUAL/ENGLISH LEARNERS**  
**Language**  
 Analyzing Language Choices

<b>Entering/Emerging</b>	Have students draw a tree with “root” word <i>smile</i> at the bottom. Add branches to tree by adding suffixes <i>-ed</i> ( <i>smiled</i> ) and <i>-ing</i> ( <i>smiling</i> ).
<b>Transitioning/Expanding</b>	Have students draw tree with “root” word <i>smile</i> . Add sample sentences to each branch: “I like to <i>smile</i> . The girl was <i>smiling</i> . The girl <i>smiled</i> .”
<b>Bridging</b>	Draw another tree with more challenging words (e.g., <i>translate</i> or <i>prepare</i> . Add sample sentence to each branch: “I prepared my homework.”)

End Lesson

## Lesson 6: From Water to Land

# Take-Home Materials

- Students will complete Take-Home Page 6.1. Students will share this week’s spelling words on Take-Home Page 6.2 with an adult.

Take-Home  
Pages 6.1 and 6.2



## 7

# Frogs

## PRIMARY FOCUS OF LESSON

### Reading

Students will ask and answer questions to demonstrate understanding of tree frogs, referring explicitly to the text. [RI.3.1]

Students will demonstrate an understanding of the Tier 2 word *nocturnal*. [L.3.4]

### Speaking and Listening

Students will compare and contrast two texts about frogs. [RI.3.9]

### Writing

Students will write a short reflection about being a frog researcher. [W.3.8]

## FORMATIVE ASSESSMENT

### Activity Page 7.2

**Frog Exit Pass** Compare and contrast two texts. [RI.3.9]

### Activity Page 7.3

**Field Journal** Explain which frog you would like to research. [W.3.8]





**Teacher Presentation Screens:**  
all lessons include slides

## LESSON AT A GLANCE

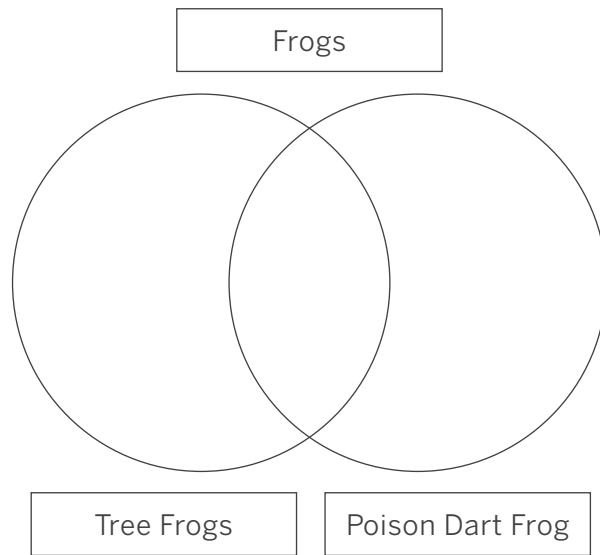
	Grouping Recommendations	Time	Materials
Reading (40 min.)			
Frog Scavenger Hunt	 Small Group	15 min.	<input type="checkbox"/> chart paper <input type="checkbox"/> Frog Scavenger Hunt Cards <input type="checkbox"/> Activity Page 7.1 <input type="checkbox"/> <i>Rattenborough's Guide to Animals</i>
Introducing the Reading	Whole Group	20 min.	
Word Work: <i>Nocturnal</i>	Whole Group	5 min.	
Speaking and Listening (50 min.)			
Introducing the Read-Aloud	 Small Group	5 min.	<input type="checkbox"/> <i>Rattenborough's Guide to Animals</i> <input type="checkbox"/> Frog Venn Diagram <input type="checkbox"/> Activity Page 7.2
Presenting the Read-Aloud	Whole Group	15 min.	
Compare and Contrast Texts	 Small Group	20 min.	
Poison Dart Frog	Whole Group	10 min.	
Writing (30 min.)			
Field Journal	Independent	20 min.	<input type="checkbox"/> Activity Page 3.2, 7.3
Animal Classification foldable	Independent	10 min.	
Take-Home Material			
Nouns, Verbs, and Adjectives			<input type="checkbox"/> Take-Home Page 7.1

## ADVANCE PREPARATION

- Determine small groups for Frog Scavenger Hunt.
- Print and cut the Frog Fact Cards. Hide the Frog Fact Cards around the classroom, but keep them visible enough for students to find them.

<p>Scavenger Hunt Frog Clue Card 1</p> <p>The American green tree frog can be found in most parts of the southeastern United States.</p>	<p>Scavenger Hunt Frog Clue Card 2</p> <p>A poison dart frog lives in the rainforests of South America.</p>
<p>Scavenger Hunt Frog Clue Card 3</p> <p>A typical American tree frog is only about two inches long, so they are pretty small.</p>	<p>Scavenger Hunt Frog Clue Card 4</p> <p>The poison dart frog is only an inch and a half long.</p>
<p>Scavenger Hunt Frog Clue Card 5</p> <p>American tree frogs range in color from lime green to yellow.</p>	<p>Scavenger Hunt Frog Clue Card 6</p> <p>Many poison dart frogs are brightly colored.</p>
<p>Scavenger Hunt Frog Clue Card 7</p> <p>The American tree frog's most distinct characteristic is its long toes with suction cups.</p>	<p>Scavenger Hunt Frog Clue Card 8</p> <p>The poison dart frogs secrete poison that seeps out from its skin.</p>
<p>Scavenger Hunt Frog Clue Card 9</p> <p>American green tree frogs lay their eggs in or near the water.</p>	<p>Scavenger Hunt Frog Clue Card 10</p> <p>Adult poison dart frogs carry their newly hatched tadpoles up into the canopy, or tops of trees above the rainforest.</p>

- Create a Venn diagram on chart paper for each small group:



### Universal Access

- Ask students to raise their hands if they have used a Venn Diagram before. Gesture to the Venn Diagram you have drawn on the board or on chart paper.
  - Ask students to draw two circles on a sheet of paper, or hand out papers with pre-drawn diagrams. Then they can write “same” in the middle and “different” on each side.
- Tell students that today they will be comparing and contrasting using a Venn Diagram as a tool to help us. Explain that we will be asking ourselves questions such as, How are these two things the same? How are they different?
  - Choose a topic to compare and contrast, such as favorite desserts. Complete a Venn diagram based on student responses.
- Tell students that today they will be comparing and contrasting two types of frogs.
  - Hold up the photos of these two different kinds of frogs. Pass them around the room or walk around the room holding the photos so students can get a closer look.
  - Based on the photos, ask students to compare and contrast the two types of frogs.
- To ensure that all students have the opportunity to contribute during Turn and Talk and Think-Pair-Share exchanges, provide students with a signal such as folding their hands or raising a hand to indicate when both partners have added to the conversation.

## Lesson 7: Frogs

## Reading

**Primary Focus**

Students will ask and answer questions to demonstrate understanding of tree frogs, referring explicitly to the text. [RI.3.1]

Students will demonstrate an understanding of the Tier 2 word *nocturnal*. [L.3.4]

**VOCABULARY FOR READING: TREE FROGS**

- The following are vocabulary words used in this lesson. Preview the words with the students before the lesson and refer back to them at appropriate times. The words also appear in the glossary in the back of the student reader.

**suction cup, n.** a round, shallow cup that can stick to a surface (**suction cups**)

**nocturnal, adj.** active during the night

**climate, n.** the usual weather patterns in a particular area

**orchestra, n.** a group of musicians who play instruments together

**Vocabulary Chart for “Tree Frogs”**

Type	Tier 3 Domain-Specific Words	Tier 2 General Academic Words
Vocabulary	suction cup climate orchestra	nocturnal
Spanish Cognates	clima orquesta	nocturno
Multiple-Meaning	climate	
Sayings and Phrases		

**FROG SCAVENGER HUNT (15 MIN.)****Small Group**

- Write the following questions on the board:
  - What do you see?

- What do you think about it?
- What does it make you wonder?

- Display the picture of a tree frog that you prepared in advance. Have students write a one-sentence response to each question. Bring students back together and have them discuss how this image can help them predict what they will learn about animals in the text. When students answer what this image makes them wonder about, they may make predictions about tree frogs based on evidence from previous chapters on cold-blooded animals.
- Graffiti Wall: Pass out chart paper to small groups. Have students divide the paper into four equal sections. In one section, have students write, “What We Know about Frogs.” In small groups, students may write anything they know about frogs, draw pictures to show their understanding, or ask questions. In the middle row, have students write, “What we want to know about Frogs.” Give students time to record questions they want to learn.
- Frog Scavenger Hunt: Explain to students that they are frog scientists going on a scavenger hunt to find information about frogs.

### Activity Page 7.1



- Have students turn to Activity Page 7.1. Explain to students that facts about frogs are listed around the room. Students may need to search high and low for Frog Clues. After they find a Frog Clue, they will answer the question for that Frog Clue on Activity Page 7.1. Tell students that there are 10 Frog Clues in the classroom.
- When all students have finished the Frog Scavenger Hunt, review the questions each group wrote on their chart paper before the hunt.
  - Did we find any answers to the questions on the board?
  - What new questions do we have about frogs? (list additional questions on the board)
- Explain that today we are going to read two texts: one about tree frogs and the other about poison dart frogs. At the end of the day, we will focus on comparing and contrasting the two types of frogs.

## D Differentiation

### Support

Group students to find clues and answer questions on Activity Page 7.1.

### INTRODUCING THE READING (20 MIN.)

- On their graffiti walls, have students write “Tree Frogs” in another section on their chart paper. Explain that throughout the reading, we will stop to add information to our graffiti wall about tree frogs.
- Tell students to take out their Reader and turn to the table of contents and locate the chapter “Tree Frogs.” Have students turn to the first page of the chapter and follow along during the reading.

# 8 Tree Frogs



As you have learned, **amphibians** are **vertebrates** that spend part of their lives in water and part of their lives on land. They start out like fish because they are born with **gills** and can breathe underwater. They later develop lungs, so they can breathe air and live on land. Tree frogs are one type of **amphibian**. They are different from most **amphibians** because they spend most of their lives in trees.

The American green tree frog can be found in most parts of the southeastern United States. A typical American tree frog is only about two inches long, so they are pretty small. But they can be loud if there are a few hundred of them gathered together.



*An American green tree frog*

## Pages 66–67

- Read the title of the chapter together as a class: “Tree Frogs.”
- Read aloud the first paragraph on **page 66** as students follow along in their Reader.
- After reading it, ask students, “What *background* knowledge do you have that was included in this first paragraph?”
  - » Amphibians are vertebrates and can live in water and on land. They have gills to breathe underwater and later develop lungs to breathe air on land.
- What new information was presented in this paragraph about tree frogs?
  - » They spend most of their lives in trees.
- Graffiti Wall: Have students add new information to their Graffiti Wall.
- Read aloud the second paragraph on **page 66** as students follow along in their Reader.

If you live in the southern United States, near water and lots of trees, your summer nights may be filled with the gentle chirps of tree frogs.

American tree frogs range in color from lime green to yellow. A tree frog's most distinct **characteristic** is its long toes with **suction cups**. The **suction cups** allow a tree frog to cling to and climb anything. A tree frog can even stick to a window.

Tree frogs like to stay in the trees, so you are more likely to hear them instead of see them. They will leave the trees to lay eggs. They are most likely to come down to the ground after a heavy rain, when everything is nice and wet.



*This tree frog's long toes with **suction cups** help it climb this branch.*

68

69

## Pages 68–69

- Read aloud the first two paragraphs on **page 68** as students follow along in their Reader.
- After reading, ask students, “What *background* knowledge do you have that was included in these paragraphs?”
  - » The word *characteristic* is used to describe something about tree frogs that makes them different.
- Ask students, “What new information was presented in these paragraphs?”
  - » Tree frogs range in color. They have suction cups on their long toes for climbing and sticking to anything.

## D Differentiation

### Support

Explain that suction cups are sometimes used to hang items on glass.



- Ask students, “Why might tree frogs need to stick to things?”
  - » Answers may vary but could include that sticking to trees allows them to climb.
- Graffiti Wall: Have students add new information to their Graffiti Wall.
- Read aloud the last paragraph on **page 68** as students follow along in their Reader.



**MULTILINGUAL/ENGLISH LEARNERS**  
**Reading**  
Reading/Viewing Closely

<b>Entering/Emerging</b>	Ask students true or false questions based on the chapter “Tree Frogs.” Frogs live in trees: true or false? Tree frogs are harmless: true or false?
<b>Transitioning/Expanding</b>	Teachers work with a small group to add basic information to Graffiti Wall. For example, “Tree frogs are harmless.” Prompt with questions like “Where do tree frogs live?”
<b>Bridging</b>	With teacher support, have students expand on information written on their Graffiti Wall. Check in with students.

If you do see one, don't worry! They are pretty friendly. They are easy to catch, too. If you catch one, it might sit on your hand or crawl around on your back.

You will probably only find them at night because they are **nocturnal**. This means they sleep during the day and are active at night. They eat small insects, such as crickets, moths, and other **nocturnal** insects.

Like other **amphibians**, American green tree frogs lay their eggs in or near the water. Most of them like to lay their eggs very close to water, but not quite in it. Their favorite place is on a tree limb or leafy branch that has fallen into a pond.



*The American green tree frog is **nocturnal**.*

## Pages 70–71

- Read aloud **page 70** as students follow along in their Reader.
- After reading, ask students, “What *background* knowledge do you have that was included in these paragraphs?”
  - » Amphibians, including tree frogs, lay their eggs near water.
- Ask students, “What new information was presented on this page?”
  - » Tree frogs are harmless, easy to catch, and nocturnal.
- Graffiti Wall: Have students add new information to their Graffiti Wall.

Different kinds of tree frogs have been around since long before the dinosaurs roamed the earth. You can find many different types of tree frogs in parts of North and South America, Europe, and Southeast Asia. This is a red-eyed tree frog, which you can find in Mexico and much of Central America.

Most tree frogs prefer a fairly warm, wet **climate**. If you live in a place with tree frogs, consider yourself lucky. In the summer, you can fall asleep each night listening to the steady song of a tree frog **orchestra**.



*This type of tree frog lives in Mexico and Central America.*

72

73

## Pages 72–73

- Read aloud **page 72** as students follow along in their Reader.
- After reading, ask students, “What new information was presented on this page?”
  - » Tree frogs have been around for a long time, they live on different continents, and they prefer a warm, wet climate.
- Graffiti Wall: Have students add new information to their Graffiti Wall.
- Have students share out their information from their Graffiti Wall.



### Check for Understanding

As groups are presenting their Graffiti Walls, ensure that students have the key information listed about tree frogs. If not, review Frog Scavenger Hunt Cards for key information on tree frogs.

## WORD WORK: NOCTURNAL (5 MIN.)

- In the Read-Aloud, you heard, “You will probably only find them at night because they are nocturnal.”
- Say the word *nocturnal* with me.
- *Nocturnal* means active during the night.
- Animals that eat and move at night are nocturnal.
- Do you know an animal that is nocturnal? What actions do nocturnal animals show? Be sure to use the word *nocturnal* when you tell about it. (Ask two to three students. If necessary, guide and/or rephrase students’ responses to make complete sentences: “A \_\_\_\_\_ is nocturnal and . . .”)
- What’s the word we’ve been talking about? What part of speech is the word *nocturnal*?

» *nocturnal*; adjective

- **Use a Creating Sentences activity for follow-up.** Tell students that they will hear names of frogs and decide if they are nocturnal or not. Explain that they will create sentences using the word *nocturnal* along with the words provided. Sample answers are below:

1. American tree frog

» An American tree frog is nocturnal because it is active at night.

2. poison dart frog

» A poison dart frog is not nocturnal because it are active during the day.

### Lesson 7: Frogs

# Speaking and Listening



**Primary Focus:** Students will compare and contrast two texts about frogs. [RI.3.9]

## VOCABULARY FOR “THE POISON DART FROG”

- The following are core vocabulary words used in this lesson. Preview the words with the students before the lesson. Students are not expected to be able to use these words immediately, but with repeated exposure throughout the lessons they will acquire a good understanding of most of the words.

Students may also keep a “unit dictionary” notebook along with definitions, sentences, and/or other writing exercises using these vocabulary words.

**secrete, v.** to seep out from the skin (**secretes**)

Vocabulary Chart for “The Poison Dart Frog”		
Type	Tier 3 Domain-Specific Words	Tier 2 General Academic Words
Vocabulary	secrete	
Multiple-Meaning		
Sayings and Phrases		

## INTRODUCING THE READ-ALOUD (5 MIN.)

### Small Group

- Write the following questions on the board:
  - What do you see?
  - What do you think about it?
  - What does it make you wonder?
- Display the picture of a tree frog that you prepared in advance. Have students write a one-sentence response to each question. Bring students back together and have them discuss how this image can help them predict what they will learn about animals in the text. When students answer what this image makes them wonder about, they may make predictions about tree frogs based on evidence from previous chapters on cold-blooded animals.
- On their graffiti walls, have students write Poison Dart Frog in the last section on their chart paper. Explain that throughout the reading, we will stop to add information to our graffiti wall about poison dart frogs.

**Note:** “The Poison Dart Frog” chapter may be used as a Read-Aloud, Partner or Small Group reading based on student need.

# 9 The Poison Dart Frog



A poison dart frog lives in the rainforests of South America. It is a tiny frog. It is only an inch and a half long.

It is cute, but it would be a mistake to pet this frog. Frogs like this one **secrete** poison. That means the poison seeps out from its skin. Some poison dart frogs secrete a mild poison. Others secrete a poison that is strong enough to kill humans. The poison helps protect the frog. It tells other animals to leave the frog alone.

The native people of South America collected poison from this kind of frog. They dipped darts into the poison. Then, they used blow guns to fire poisoned darts at their enemies. This is why the frogs are called poison dart frogs.

Many poison dart frogs are brightly colored. You might think this would be a dangerous trait. After all, many animals are camouflaged. Their camouflage helps them hide from **predators**. Why, then, would an animal be brightly colored? Why would it stand out? Wouldn't that make it easy for **predators** to spot?

*Sapphire blue species of poison dart frog.*



74

75

## PRESENTING THE READ-ALoud (15 MIN.)

### Pages 74–75

- Read the title of the chapter together as a class: “The Poison Dart Frog.”
- Read aloud the first paragraph as students follow along in their Reader.
- What does the word *secrete* mean?
- Graffiti Wall: Have students add new information to their Graffiti Wall.
- The people of what continent made darts from frog poison?
  - » South America
- Graffiti Wall: Have students add new information to their Graffiti Wall.

## D Differentiation

### Support

Explain that some poison dart frogs are yellow, gold, copper, red, green, blue or black.



Scientists think that is precisely the point. They have noted that many **poisonous** animals are brightly colored. They think the color serves as a warning sign. It tells other animals, “Watch out! You don’t want to eat me! I will poison you!”

Poison dart frogs are **amphibians**. That means they live in water and on land.

Poison dart frogs lay eggs. The female lays the eggs in a moist spot. Then, the male fertilizes the eggs. Eventually, **tadpoles** hatch out of the fertilized eggs.



*Poison dart frog.*

76

Some **amphibians** lay a lot of eggs and leave the young to fend for themselves. Poison dart frogs are not like that. They are dedicated parents. The adult frogs carry their newly hatched **tadpoles** up into the canopy, or tops, of trees above the rainforest. They carry the baby **tadpoles**



*Poison dart frogs have brightly colored skin that gives off the warning to **predators** of their toxicity.*

on their backs, one at a time. The parents secrete sticky mucus. This sticky mucus keeps the **tadpoles** from falling off the parents’ backs during the climb up to the canopy.

77

## Pages 76–77

- To what group within the animal kingdom do poison dart frogs belong? Why?
- When are poison dart frogs able to leave the water?
- Graffiti Wall: Have students add new information to their Graffiti Wall.

For many species, the mothers do much of the childcare. This is not true of poison dart frogs. Mothers and fathers both take care of the young. Moms and dads both carry the **tadpoles** up into the canopy.

The parents deposit the **tadpoles** in small pools of water that form in plants at the top of the canopy. The **tadpoles** live in these pools for a while. They breathe underwater, using **gills**. They eat tiny animals that live in the water. If there is not enough food, the mother may lay eggs in the pool. The **tadpoles** can eat the eggs.

Eventually, the **tadpoles** experience a metamorphosis, or change. They grow legs. They develop lungs. They change into frogs. Once this happens, they are ready to leave the water.

The **habitat** of the poison dart frog is under threat. It is threatened by logging and farming. If trees are cut down, these frogs have nowhere to live. In recent years, lots of trees have been cut down in South America. Some people cut them down to sell the wood. Some cut them down to set up farms. As a result of this tree cutting, some kinds of poison dart frogs are now endangered.



*Strawberry Poison-dart Frog.*

78

79

## Pages 78–79

- **Write-Pair-Share:** Have students write one sentence by combining the following sentences:
  - The tadpoles of poison dart frogs breathe underwater.
  - The tadpoles of poison dart frogs use their gills to breathe.
- After writing, tell students to share their writing with a partner. Remind students to signal when both partners have contributed to the conversation.
  - » Answers may vary but could include “The tadpoles of poison dart frogs use their gills to breathe underwater” or “The tadpoles of poison dart frogs breathe underwater, using their gills.”
- What can be done so that poison dart frogs are no longer endangered?
- Graffiti Wall: Have students add new information to their Graffiti Wall.

## D Differentiation

### Challenge

Have students research different organizations that are working to save poison dart frogs and report their findings to the class.





### Check for Understanding

As groups are adding information to their Graffiti Walls, ensure that students have the key information listed about poison dart frogs. If not, review Frog Scavenger Hunt Cards for key information on poison dart frogs.

## COMPARE AND CONTRAST TEXTS (20 MIN.)



### Small Group

- Explain that after reading two texts, good readers ask themselves:
  - What information is alike in both texts?
  - What information is different in both texts?
- When we think back to important points in both texts, we are comparing and contrasting. When you compare two or more texts, you find ways they are alike. When you contrast two texts, you find things that are different.
- Pass the Frog Venn Diagram chart paper to each group. Explain that students will compare and contrast tree frogs and poison dart frogs. Be sure to include specific information about each.
- Exit Pass: When small groups have finished the Frog Venn Diagram, have them complete the Exit Pass on Activity Page 7.2.



### MULTILINGUAL/ENGLISH LEARNERS

#### Speaking and Listening

##### Reading/Viewing Closely

<b>Entering/Emerging</b>	Work on Venn Diagram in small group. List characteristics of tree frogs. Prompt students with true-or-false questions: "Tree frogs are brightly colored: true or false?"
<b>Transitioning/Expanding</b>	Work on the Venn Diagram with a partner. Prompt partner groups by asking questions about tree frogs: "Are tree frogs amphibians? Do tree frogs lay eggs?"
<b>Bridging</b>	Work on the Venn Diagram independently. Ensure students are referring to the texts and putting similarities and differences in the diagram.

## Activity Page 7.2



### Differentiation

#### Support

Pull a small group to complete the Frog Venn Diagram.



### Check for Understanding

If students could not identify how the two texts are different, pull students and compare the two texts using the Frog Scavenger Hunt Cards.

### POISON DART FROG (10 MIN.)

- Have everyone sit in a circle. The teacher is the leader and a student is the detective. A new student will be the detective every round, but the leader will always be the teacher.
- The detective is removed from the group so they cannot see who is chosen to be the poison dart frog. All the students in the circle will close their eyes and the leader will walk around and tap one student on the shoulder. This student is the “Poison Dart Frog,” but cannot tell anyone.
- The class opens their eyes and the detective sits or stands in the middle of the circle trying to figure out who the poison dart frog is.
- When the detective is not looking, the Poison Dart Frog will stick their tongue out to another student. The person will fall over and pretend to be poisoned. The Frog will continue to stick their tongue out at students.
- When the detective thinks they know who the “frog” is, they will guess.

## Lesson 7: Frogs

# Writing



**Primary Focus:** Students will write a short reflection about being a frog researcher. [W.3.8]

### FIELD JOURNAL (20 MIN.)

- Have students turn to Activity Page 7.3 and respond to the prompt.



#### MULTILINGUAL/ENGLISH LEARNERS

#### Writing

#### Writing

<b>Entering/Emerging</b>	Provide students with sentence starters to complete Activity Page 7.3: I learned about two types of frogs, ____ and ____.
<b>Transitioning/Expanding</b>	Provide students with sentence starters to complete Activity Page 7.3: If I were a frog researcher, I would want to learn about ____, because ____.
<b>Bridging</b>	Provide students with sentence starters to complete Activity Page 7.3: If I were a frog researcher, I would want to learn about ____ because ____.

### ANIMAL CLASSIFICATION FOLDABLE (10 MIN.)

- When students have completed the writing prompt, they may add additional information about Amphibians, specifically frogs, to Activity Page 3.2.

End Lesson

## Lesson 7: Frogs

# Take-Home Material

- Have students complete Take-Home Page 7.1.

### Activity Page 7.3



### D Differentiation

#### Support

Brainstorm with students possible responses to the journal prompt.

### Take-Home Page 7.1



# Pausing Point 1

## Note to Teacher

This is approximately the halfway point of the *Fur, Fins, and Feathers: Animal Classification* unit. Students have studied various aspects of animal classification, including the differences between vertebrates and invertebrates and between warm- and cold-blooded animals. Students have learned so far about fish and amphibians. It is recommended that you pause here and spend a day reviewing, reinforcing, or extending the material taught so far.

You may do the activities in any order or combination, using whole class or small groups to meet the needs of the students.

---

## ACTIVITIES

### Key Vocabulary Brainstorming

**Materials:** Chart paper, chalkboard, or whiteboard

- Give students a key domain concept or vocabulary word such as *classification*. Have them brainstorm everything that comes to mind when they hear the word, such as the terms *warm-blooded/cold-blooded*, *vertebrate/invertebrate*, *animal group*, *characteristics*, *features*, etc. Record student responses on a piece of chart paper, a chalkboard, or a whiteboard for reference.

### Poetry Reading

- Tell students that they are going to hear a poem titled “The Crocodile” written by Lewis Carroll.
- Tell students that Lewis Carroll is also the author of the fantasy stories *Alice’s Adventures in Wonderland* and *Through the Looking-Glass*.
- Tell students to listen for the characteristics of the crocodile that Lewis Carroll includes in his poem.

---

## **The Crocodile**

**by Lewis Carroll**

*How doth the little crocodile*

*Improve his shining tail,*

*And pour the waters of the Nile*

*On every golden scale!*

*How cheerfully he seems to grin!*

*How neatly spreads his claws,*

*And welcomes little fishes in*

*With gently smiling jaws!*

---

- After reading the poem, ask students to share a characteristic about the crocodile that they heard in the poem. Ask them to remember the describing words, or adjectives, that Lewis Carroll uses to create an image of the crocodile in its habitat. Reread the poem and ask students to think about and listen for more characteristics and describing words. As time permits, you may wish to have some students create a drawing of this poem and caption it. Have them share their drawings and captions.

### **Poetry Writing**

- Using the poems “Eletelephony” and “The Crocodile” as models, have students create their own poems about an animal or animal group.

## Collaborative Drawing

**Materials:** Animal Classification foldable (Activity Page 3.2) drawing paper, drawing tools *Rattenborough's Guide to Animals*

**Note:** This activity works well as a small group activity while students are working independently on research. You may need to assist students with passing the drawing paper so that each drawing remains facedown. You may wish to post the completed drawings on your classroom bulletin board.

- In advance, fold sheets of drawing paper into thirds. Students will be working in groups of three. Tell students they will be drawing animals from the reading and Read-Aloud. Tell students they may refer to their Animal Classification foldable (Activity Page 3.2) and their Reader to help them with ideas, and that they may choose an animal that has not yet been entered in detail on the Animal Foldable. The most important direction for this activity is that students may not tell the other members of their group what they are drawing. They must include characteristics of the animal group they are choosing. For instance, if someone chooses an animal in the fish group, the drawing would need to include scales and gills. The first student in each trio will have the assignment of drawing the head of any animal that is classified in one of the five vertebrate animal groups, and they will use just the first folded third of the paper.
- When this is complete, the first student will pass the drawing to the second student, being sure to keep the head of the animal face down. The second student in each trio will draw the middle section of a body of an animal of their choosing that is classified in one of the five vertebrate groups. The second student will use the middle third of the piece of paper. Tell students that this is not intended to be the same animal that the first student has drawn, and remind them that there is to be no discussion of what anyone draws. When the second student is finished, they will pass the drawing to the third student. The third student in each trio will draw the lower half of an animal's body (e.g., legs, tail, etc.) on the lower third of the drawing paper.
- After the third student in each trio has completed the final part, students may open up the folded paper to see what they have created!
- Last, each trio will collaborate to come up with a fitting name for the animal they have created.

## Vertebrates

**Materials:** Bone models; bone images

- Show students bone models or pictures of the skeletons of humans and other animals to illustrate the term *vertebrate*. You may wish to also review the word *vertebrae* as the name for the bones that make up the backbones of vertebrates. Help students find the backbone (vertebrae) in each model/image and to feel their own vertebrae.

### Raise Your Hand If . . .

- Tell students that they are going to play a game called “Raise Your Hand If . . .” Explain that you will begin with the phrase, “Raise your hand if,” and then you will add a second phrase about the characteristics of fish. Tell students to raise their hands if the statement is a true statement regarding the classification of fish. Clarify that the characteristics discussed will describe the majority of the animals in this group, and that rare exceptions will not be included.
  3. Fish are warm-blooded.
  4. Fish have backbones. (Raise hands.)
  5. The habitats fish live in are aquatic. (Raise hands.)
  6. Fish breathe oxygen in water using gills. (Raise hands.)
  7. Fish have feathers.
  8. Fish have scales. (Raise hands.)
- Explain that you will now play the game to review characteristics of amphibians.
  1. Fish are amphibians.
  2. Toads are amphibians. (Raise hands.)
  3. Amphibians breathe through their skins. (Raise hands.)
  4. Amphibians are invertebrates.
  5. Amphibians are cold-blooded. (Raise hands.)
  6. Amphibians go through a transformation called metamorphosis. (Raise hands.)
  7. The word *amphibian* means “living two lives.” (Raise hands.)

## Classroom Fish

**Materials:** Fish tank; aged tap water; small fish; fish food; turkey baster or air pump

- You may wish to prepare a tank as an aquarium so that students may closely study fish. Age tap water by letting it sit out for twenty-four hours. Add goldfish or other small fish from a pet store. If there is no air pump in the tank, squeeze a turkey baster into the water a few times every couple of days to oxygenate the water for the fish. Add fish food as directed on the package. Allow students to study and take notes on the fish. Be sure to point out key characteristics such as gills, fins, and scales.

## Animal Groups Bulletin Board

**Materials:** Bulletin board; drawing paper; drawing tools; magazines

- Tell the class or a group of students that together they are going to make an Animal Groups bulletin board to help them remember what they have learned thus far in this domain. Have students brainstorm important information about the groups of animals they have learned. Have each student choose one idea to draw a picture of, and ask them to write a caption for the picture. Divide the bulletin board into five sections, one section for each animal group. Post students' drawings in the categories they describe. (*Cold-blooded* would go in the "Fish, Amphibians, or Reptiles" section, for example.) You may want to have more than one student draw/write about each concept.
- Then have students bring in images or cut out images of animals from each of the groups and post those onto the bulletin board as well. Tell students that they will continue to add to this bulletin board as they learn more about animal groups.

## Riddles for Core Content

- Ask students riddles such as the following to review core content:
  - I am a process of organizing animal groups based on particular characteristics. What am I called?
    - » animal classification or taxonomy
  - I am a person with a high level of knowledge about the natural world based on facts learned through observation and experiments. I classify animals into groups according to their characteristics. What am I?
    - » a taxonomist



- I am an animal whose body temperature is maintained by my surroundings. It is not constant. What am I?
  - » a cold-blooded animal
- I am an animal whose body temperature is constant and does not depend on the temperature of my surroundings. What am I?
  - » a warm-blooded animal
- I am an animal with a backbone. What am I?
  - » a vertebrate
- I am an animal without a backbone. What am I?
  - » an invertebrate
- I am an aquatic animal with gills and fins, and I have a body covered in scales. What am I?
  - » a fish
- I am an animal that can live both on land and in water. What am I?
  - » an amphibian
- I am the larva that hatches from the egg of an adult female frog. What am I?
  - » a tadpole

## INDEPENDENT CENTERS

- During this Pausing Point, centers may be set up for student rotation. This time will allow students to work independently while a small, needs-based group can be taught. Literacy centers provide students of all abilities time to work together. Centers can be located anywhere in your classroom. You can put them on top of a bookshelf, on the seat of a chair, or on a desk. Be sure to introduce all the centers before students begin the rotation. Students account for their work at a center by completing Pausing Point Page PP.4: Centers Checklist.

Pausing Point  
Pages PP.1–PP.4



## 1. Text Features

**Materials:** A bin of informational books about animals; Blank paper or file folder; Activity Page PP.1; Pencil

**Directions:** At the center, students will choose an informational book and complete the Text Feature hunt on Activity Page PP.1.

**Note:** Students complete this activity in Lesson 1 using a chapter in the Reader.

## 2. Making a Poster

**Material:** Activity Page 4.1; Drawing paper; Drawing tools

**Directions:** Have students create posters of their own that name the five vertebrate animal groups. Be sure to have them include the name of each group along with a drawing of an animal in each group.

## 3. Sequence Signal Words

**Material:** Student reader; Lined paper; Activity Page PP.2

**Directions:** Go back into texts already read in the reader. Identify signal words in the text and include the page number. Students will record their responses on Activity Page PP.2.

## 4. Writing Center

**Materials:** Lined paper; Writing tool

**Directions:** Students may be given an additional writing prompt such as the following:

- I know that I am warm-blooded because \_\_\_\_\_.
- Scientists classify animals because \_\_\_\_\_.
- Would you like to be an amphibian? Why or why not?
- Warm-blooded animals are \_\_\_\_\_.
  - Cold-blooded animals are \_\_\_\_\_.
  - Two interesting facts I learned about animals are \_\_\_\_\_.
  - Compare and contrast a piranha and a toad.

- Compare and contrast vertebrates and invertebrates.
- Choose an animal that is a pattern-breaker, and write a paragraph explaining why it should be classified differently than it is.
- Students will record their responses on lined paper.

## 5. Comparing Heights

**Materials:** Painter's tape; Ruler; Wall area; Images *Use images from Rattenborough's Guide to Animals*; Sticky notes; Activity Page PP.3

**Directions:** On a wall in the classroom, create a giant ruler. Measure increments in feet and label each foot using painter's tape. Next, place the correct Image Card on the wall as follows:

- Egret: 3.3 feet tall
- Toad: 8 inches
- Hippo: 5 feet
- Piranha: 6 inches
- Anaconda: 20 feet (Note: You may need to extend your measurement along the ceiling.)

Students will record their responses on Activity Page PP.3.

## 6. Compound Sentences

**Materials:** PP.6 and PP.7 from the Pausing Point Activity Book.

**Directions:** Students who would benefit from additional practice with compound sentences may complete Pausing Point Pages PP.6 and PP.7 independently or in groups.

Pausing Point  
Pages PP.6 and PP.7



## 8

# Cold-Blooded Scaly Vertebrates

## PRIMARY FOCUS OF LESSON

### Speaking and Listening

Students will determine the meaning of unknown words in the text.

[RI.3.4]

Students will demonstrate an understanding of the Tier 2 word *effectively*. [L.3.4]

### Writing

Students will write a short reflection on being a herpetologist.

[W.3.8]

### Language

Students will determine the meanings of words formed when *re-* or *pre-* are added to known root words. [L.3.4b]

## FORMATIVE ASSESSMENT

### Activity Page 8.1

**Reptile Vocabulary** Determine the meaning of unknown words. [RI.3.4]

### Activity Page 8.2

**Field Journal** Write about being a herpetologist. [W.3.8]





### Activity Page 8.3

**Prefixes *re-* and *pre-*** Write the correct word to complete the sentence. [L.3.4b]



**Teacher Presentation Screens:**  
all lessons include slides

## LESSON AT A GLANCE

	Grouping Recommendations	Time	Materials
Speaking and Listening (80 min.)			
Introducing the Read-Aloud	 <b>Small Group</b> /Whole Group	25 min.	<input type="checkbox"/> lined paper <input type="checkbox"/> Visual Supports 8.1, 8.2 <input type="checkbox"/> sticky notes <input type="checkbox"/> <i>Rattenborough's Guide to Animals</i> <input type="checkbox"/> Activity Page 8.1
Presenting the Read-Aloud	 <b>Small Group</b> /Whole Group	25 min.	
Discussing the Read-Aloud	 <b>Small Group</b> /Whole Group	25 min.	
Word Work: <i>Effectively</i>	 <b>Small Group</b> /Whole Group	5 min.	
Writing (15 min.)			
Field Journal	Independent	15 min.	<input type="checkbox"/> Activity Page 8.2
Language (25 min.)			
Introducing Prefixes <i>re-</i> and <i>pre-</i>	Whole Group	15 min.	<input type="checkbox"/> Activity Pages 8.3, 8.4
Spelling	Whole Group	10 min.	
Take-Home Material			
Blank Busters			<input type="checkbox"/> Take-Home Page 8.1

ADVANCE PREPARATION

Speaking and Listening

- On chart paper, create the following or prepare to display Visual Support 8.1.

➤ Visual Support 8.1

Context Clues	
Glossary	<ul style="list-style-type: none"><li>Look in the back of the book.</li></ul>
Sentences before or after	<ul style="list-style-type: none"><li>Look at the sentences before or after for clues.</li></ul>
Signal words and punctuation	<ul style="list-style-type: none"><li>called</li><li>_____ is/are</li><li>commas</li></ul>
Prefixes and suffixes	<ul style="list-style-type: none"><li>prefixes<ul style="list-style-type: none"><li><i>un-</i> = not</li><li><i>re-</i> = again</li></ul></li><li>suffixes<ul style="list-style-type: none"><li><i>-ful</i> = full of</li><li><i>-able</i> = able to do</li></ul></li></ul>

- On chart paper, create the following or prepare to display Visual Support 8.2.

➤ Visual Support 8.2

Context Clues		
Unknown Word	Clues from the Text	Predictions

## Language

- Make sure the table with this week's spelling words are on display where students can see it for the spelling lesson.

## Universal Access

In this lesson, students will practice determining the meaning of unknown words.

- Ask students what they do when they come across an unknown word while reading. Write the strategies that students state on the board. If students do not share strategies readily, prompt discussion with these questions:
  - When you find an unknown word in the text, what do you do? Do you keep reading?
  - Do you ask the teacher or a parent what the word means?
  - Do you ask your classmate what the word means?
  - Do you look up the word in the dictionary or on the Internet?
  - Write a list of strategies on the board.
- Tell students that today we will learn how to use context clues and make predictions so that we can figure out the meaning of unknown words.
  - Ask students if they know how to make a prediction. Where can you find a clue in the text when you are reading? If they do not know, prompt with these answers: Find words you know. Look at other words in the sentence. Look at words near the unknown word to give you clues. Break down the word into root words.
- To ensure that all students have the opportunity to contribute during Turn and Talk and Think-Pair-Share exchanges, provide students with a signal such as folding their hands or raising a hand to indicate when both partners have added to the conversation.

## Lesson 8: Cold-Blooded Scaly Vertebrates

## Speaking and Listening



## Primary Focus

Students will determine the meaning of unknown words in the text. [RI.3.4]

Students will demonstrate an understanding of the Tier 2 word *effectively*. [L.3.4]

**VOCABULARY FOR “REPTILES: COLD-BLOODED SCALY VERTEBRATES”**

- The following are core vocabulary words used in this lesson. Preview the words with the students before the lesson. Students are not expected to be able to use these words immediately, but with repeated exposure throughout the lessons they will acquire a good understanding of most of the words. Students may also keep a “unit dictionary” notebook along with definitions, sentences, and/or other writing exercises using these vocabulary words.

**calcified, adj.** hardened, especially by deposits of the mineral known as calcium salts

**sensitive, adj.** able to feel something very quickly or intensely

**venomous, adj.** having or producing poisonous fluid

**reptile, n.** a cold-blooded animal with tough, scaly skin that uses its surroundings to control its body temperature (reptiles)

**effectively, adv.** well done with purpose and success

**Vocabulary Chart for “Reptiles: Cold-Blooded Scaly Vertebrates”**

Type	Tier 3 Domain-Specific Words	Tier 2 General Academic Words
Vocabulary	calcified venomous reptile	sensitive effectively
Spanish Cognates	calcificado venenoso/a reptil	sensible
Multiple-Meaning		
Sayings and Phrases		



## INTRODUCING THE READ-ALOUD (25 MIN.)



### Small Group

- Pass out lined paper and have students write what they have learned thus far in the unit. Tell them that they will have 10 minutes to complete their writing.
- Have small groups of three to four students read aloud their writing. Remind students to focus on speaking slowly and clearly.
- Explain that they are going to listen to a text with many unknown words.
- Ask, “What are some ways we can figure out unknown words?”
  - Possible student response: Glossary, prefixes and suffixes, sentences before and after, and signal words.

### > Visual Support 8.1

- Display the Context Clues Anchor Chart (Visual Support 8.1). Read the chart aloud to the class.
- Pass out sticky notes (three per student). Explain that during the Read-Aloud, the class will pause to try to determine unknown words in the text.

## PRESENTING THE READ-ALOUD (25 MIN.)



### Small Group

- Tell students to turn to the table of contents and locate today’s chapter: “Reptiles: Cold-Blooded Scaly Vertebrates”. Have students turn to the first page of the chapter and follow along during the Read-Aloud.

**Note:** “Reptiles: Cold-Blooded Scaly Vertebrates” chapter may be used as a Read-Aloud, Partner or Small Group reading based on student need.

# Chapter 10 Reptiles: Cold-Blooded Scaly Vertebrates



## Read-Aloud

Hello, students. As you can see, Anna Anaconda is our starting place for today's lesson. She is a green anaconda, one of the largest snakes in the world. When she unwinds, she is about as long as six of you stretched head-to-toe across the room, and she weighs about five hundred pounds! That's more than about eight of you put together!

Anna Anaconda belongs to a group of animals that shares a lot of the same **characteristics** as the **amphibians** you learned about last time. Who knows the name of the group used by taxonomists to **classify** snakes? Yes, snakes are **reptiles**. **Reptiles** include crocodiles, alligators, lizards, turtles, and tortoises. But right now I want to focus on one **reptile** only: Anna. It's no secret that she has a very high opinion of herself—she was quite fond of telling me so when I visited Peru. She thinks she is rather pretty, and I quite agree!

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*Rainforest with piranha, toad, and Anna Anaconda*

In spite of her heavy body, Anna is a very good swimmer. Unlike some of her reptilian relatives, she is an **aquatic** snake, preferring swamps and rivers to the land.

Snakes often have a bad reputation. Some snakes are **venomous**, releasing **poisonous** liquid called **venom** when they bite. Anna's teeth are actually quite small and she is not **venomous**, so you need not worry about that. However, some people fear anacondas because they are members of a family of snakes called constrictors. Does anyone know what that means? Constrictors catch and kill their prey by coiling, or wrapping, around to prey and squeezing them very tightly. Anacondas' jaws open

81

## Pages 80–81

- **Vocabulary Pause:** "Did you hear or read any words that you or someone else in the classroom may not know the definition of?"
  - possible student responses: unwinds, aquatic
- Write the word suggested from the class on a Context Clues Chart (Visual Support 8.2). Model adding the word to the chart. For example, if the word is *aquatic*, model adding the word to the chart:

### ➤ Visual Support 8.2

Unknown Word	Clues from the Text	Prediction
aquatic	Anna is a good swimmer. swamps rivers	having to do with water

so wide that they can swallow animals whole—fish, caiman, even jaguars and small deer. The anaconda’s powerful muscles crush the bones of its prey as it constricts. Once swallowed, the anaconda slowly digests its meal.

Uh oh, some of you look fearful. Don’t worry. You’re safe. Anacondas are not native to North America; you’ll find them far, far away on the continent of South America. That’s where I met Anna! Anna was sure to tell me that as far as she knows, there is no documented record of an anaconda ever killing a man, woman, or child. She and all anacondas are **nocturnal** animals and they hunt at night, eating frogs, toads, birds, fish, and turtles. She doesn’t have to hunt very often because one animal will satisfy her appetite for a long time.

Well, that’s a lot of information about Anna’s **characteristics**, the ways by which scientists **classify** her as belonging to the animal class called **reptiles**, or reptilia. Anna and other **reptiles** share some common **characteristics** with **amphibians**. Many scientists believe **reptiles** evolved from **amphibians**. **Reptiles** are all **vertebrates** because they all have backbones, and they are all **cold-blooded** because their internal **temperatures** change with their surroundings. Most **reptiles** can adjust

their body **temperatures** by basking in the sun to stay warm, or by hiding under a rock to stay cool.

Just like **amphibians**, **reptiles** live on land and in water. However, these two groups do—of course—have their differences. **Amphibians** depend upon water to stay alive much more so than **reptiles**. **Amphibians’** thin, wet, slimy skin needs moisture to absorb **oxygen** from the air, but **reptiles’** skin is waterproof. Unlike toads and salamanders, Anna and other **reptiles** do not breathe through their skin, which is hard, dry, and scaly. They use only their lungs to breathe air, which means they are able to withstand very harsh dry weather, conditions under which **amphibians** would not be able to **survive**. Of course, because they have lungs, this also means that **reptiles** cannot stay underwater very long without coming to the surface to breathe.

**Amphibians** usually spend part of their lives entirely in water, but this is not true of **reptiles** as a group. Whereas **amphibians** begin life with **gills**, **reptiles** are born with lungs and are never dependent upon **gills** for breathing. Remember how different baby **tadpoles** look from adult toads? This is not the case for **reptiles**. Baby **reptiles** usually look a lot like their parents. They do not undergo metamorphosis the way that **amphibians** do.

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## Pages 82–83

- **Vocabulary Pause:** “Did you hear or read any words that you or someone else in the classroom may not know the definition of?”
  - possible student responses: reputation, venom, coiling, appetite

### ➤ Visual Support 8.2

- Write the word suggested from the class on a Context Clues Chart (Visual Support 8.2). Model adding the word to the chart.

## D Differentiation

### Support


Create a 2-column chart to organize information on amphibians and reptiles.

### Support

Work with a small group to complete the sticky notes to place on the class's Context Clues Chart.

### Challenge

Using the Context Clues Anchor Chart (DP. U2.L8.1), have students find an example of each of the strategies listed on the chart independently.

- Organize students into pairs and pass out three sticky notes to each group.
-  **Think-Pair-Share:** With a partner, have students determine any words that they may not know the definition of. Remind students to signal when both partners have contributed to the conversation.
  - reptilia, evolved, basking
- Students will record the following responses on their sticky notes and place on the class Context Clues Chart (Visual Support 8.2):
  - Sticky Note 1: Write the word.
  - Sticky Note 2: the context clues
  - Sticky Note 3: their predictions
- When student groups have posted their responses on the class Context Clues Chart, read aloud some of the student responses as a whole group.



#### MULTILINGUAL/ENGLISH LEARNERS

#### Speaking and Listening

#### Analyzing Language Choices

##### Entering/Emerging

Teacher works with small group to complete sticky notes for Context Clues Chart. Prompt students to think about vocabulary by asking yes or no questions.

##### Transitioning/Expanding

Work with a partner to complete sticky notes for Context Clues Chart. Teacher checks in with students.

##### Bridging

Students work independently to complete sticky notes for Context Clues Chart. Teacher monitors progress.



*From top left going clockwise: gecko, iguana, gecko, chameleon.  
Bottom: Komodo dragon*

84

Let's take a look at some of the animals that belong to the animal group classified as **reptiles**. These include lizards, geckos, iguanas, and chameleons. Unlike snakes, most lizards have four legs. Chameleons have a keen sense of sight and very long tongues. Their brilliant colors—all shades of pink, blue, red, orange, turquoise, and green—help them camouflage when they come face-to-face with their enemies.

Earth's largest living lizard is the Komodo dragon. It can grow to be ten feet long and may weigh as much as 150 pounds! These giant island **carnivores** eat animals as large as goats, pigs, and deer.

Saltwater crocodiles are the largest **reptiles** on Earth, some weighing up to one ton. Looking like very large lizards, crocodiles make their homes in tropical **climates**, and are often seen floating like logs in the water with only their nostrils, eyes, and ears showing. Like Anna, they are **nocturnal** hunters, hunting at night. Crocodiles have the most powerful bite in the entire animal **kingdom** and are fierce hunters, living off fish and small **mammals**. Some live to be more than one hundred years old!

85

## Pages 84–85

- Read aloud **pages 84–85**.



*Alligator and crocodile*

Alligators resemble crocodiles, but they are usually less **aggressive**, or boldly forceful, and live in freshwater **habitats**. Can you tell the difference between an alligator and a crocodile? Alligators usually have a wide, rounded, U-shaped snout, and crocodiles tend to have longer, more pointed, V-shaped noses.

## Pages 86–87

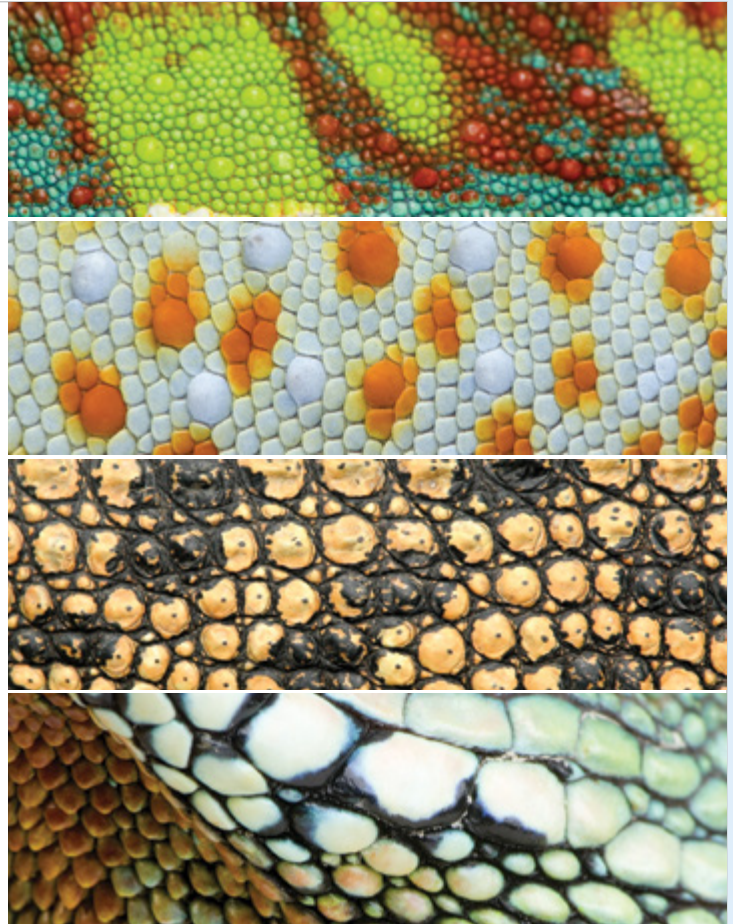
- Read aloud **pages 86–87**.



Look at all of these **reptiles** side by side: chameleons, Komodo dragons, crocodiles, and alligators. What do you notice about their skin? Is it rough or smooth? Does it look thick or thin?

Remember when I mentioned that **reptiles'** skin is waterproof, and that it is hard, thick, and scaly? Their type of scaly skin protects them from overheating, and because their skin is waterproof, it keeps water *inside* their bodies. Because **reptiles'** skin is very **sensitive** to—or easily affected by—**temperature**, it becomes hot or cold very quickly when exposed to sun or shade. Like many **amphibians**, some **reptiles** shed their skin. Many lizards and snakes shed their skin several times a year as they grow. Snakes do not eat their shed skin the way **amphibians** do.

Turtles and tortoises are the only **reptiles** with bony shells as part of their skeletons. Their backbones are actually fused to their shells. These shells may be flat or domed. Some turtles, like spiny softshell turtles, have softer shells so that they can swim faster, but some land-dwelling tortoises, like Galapagos tortoises, need hard, leathery shells to protect them from **predators**. Their legs vary in appearance, depending upon where they live as well. Sea turtles have oar-shaped flippers for moving through water **effectively**. Many turtles have claws which help them



*Reptile scale*

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89

## Pages 88–89

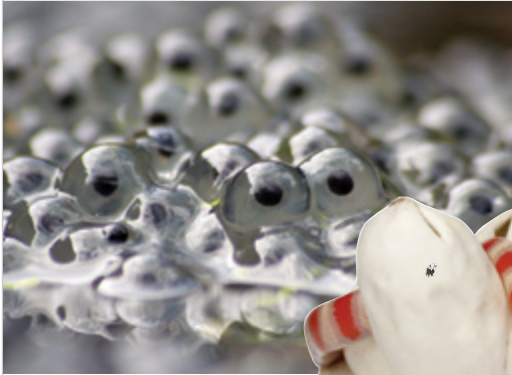
- Read aloud **pages 88–89**.
- Organize students into pairs and pass out three sticky notes to each group.
- **Vocabulary Pause:** With a partner, students will determine any words that they or someone else in the classroom may not know the definition of.
  - Possible student response: fierce, exposed, maneuver

### ➤ Visual Support 8.2

- Students will record the following responses on their sticky notes and place on the class Context Clues chart (Visual Support 8.2):
  - Sticky Note 1: Write the word.
  - Sticky Note 2: the context clues
  - Sticky Note 3: their predictions

- When student groups have posted their responses on the class Context Clues Chart, read aloud some of the student responses as a whole group.
- Distribute paper. Have students look at the picture on page 89 and write one sentence about reptiles' skin using at least two nouns, at least two adjectives, and more than twelve words.
  - » Answers may vary but could include "Reptiles have thick and scaly skin that is waterproof and helps to keep them from overheating" or "The skin of reptiles is very sensitive and can become hot or cold very quickly."





*Frog and snake eggs*



their claws to effectively maneuver, or move, through water. Land tortoises—like the giant Galapagos—have huge, column-shaped legs with claws. These claws help them dig into the ground to move across it. Some turtle species live for more than a century! That's a very long time indeed.

Body coverings are an important difference between **amphibians** and **reptiles**. Another thing that sets the two groups apart is their eggs. Remember the picture that showed strands of thousands of soft eggs that Tabitha Toad laid in the pond? Most **reptiles**

lay far fewer eggs, and they lay their eggs in nests on land. **Membranes**, soft outer coverings, that provide protection and also help to hold in necessary water for eggs to grow, usually coat the inside of reptilian eggs. In most **reptile** species, the eggs are also covered in leathery, **calcified** shells. A few snakes and lizards give birth to fully formed, live young instead of laying eggs. The garter snake, a snake that is right here in North America, is one of these exceptions to the rule; so is the Solomon Island Skink, a lizard whose **habitat** is near the continent of Australia.

Like **amphibians**, **reptiles** live all over the world. They prefer hot, low areas like rainforests, prairies, deserts, and oceans, but they can be found everywhere except near the cold South Pole.

If you are as fascinated as I am with **reptiles** and **amphibians**, you may want to think about becoming a herpetologist. Yes, indeed—*herpetologist* is the name given to a scientist who specializes in herpetology, the study of certain crawling animals, specifically, **reptiles** and **amphibians**. With more than 5,600 species of lizards alone, that should keep you busy for a lifetime!

## Pages 90–91

- Read aloud **pages 90–91**.

## DISCUSSING THE READ-ALOUD (25 MIN.)



### Small Group

1. **Literal.** How is the waterproof, scaly skin helpful to reptiles?
    - » It keeps water in, keeps them from overheating, and protects them.
  2. **Inferential.** What major characteristics represent animals in the group called reptiles?
    - » cold-blooded, vertebrates, covered in scales or bony plates, usually lay eggs, have lungs
  3. **Evaluative.** Compare and contrast a crocodile and an alligator.
    - » They are both reptiles; they both have hard, scaly skin; alligators prefer fresh water, and they have wide, rounded, U-shaped snout; crocodiles prefer salt water, and tend to have longer, more pointed, V-shaped noses.
- Have students complete the Exit Pass on Activity Page 8.1 independently.

## Activity Page 8.1



## WORD WORK: *EFFECTIVELY* (5 MIN.)



### Small Group

- In the Read-Aloud you heard, “Sea turtles have oar-shaped flippers for moving through water effectively.”
- Say the word *effectively* with me.
- When something is accomplished effectively, it means that it is well done with purpose and success.
- “There was no way for the principal to effectively get his message to the entire school while the public address system was broken.”
- Think of a time when either you did something effectively or you observed something being done effectively. Be sure to use the word *effectively* when you tell about it. Ask two or three students. If necessary, guide and/or rephrase the students’ responses to make complete sentences: “I carved the pumpkin more effectively with \_\_\_\_.”
- What’s the word we’ve been talking about? What part of speech is the word *effectively*?
  - » *effectively*; *adverb*

- **Use a Making Choices activity for follow-up.** Directions: “I am going to ask you some questions about some things that you may be able to do effectively or that you may not be able to do effectively, or at all. Include the question in your answer, as well as the reason. For example, if I asked, ‘Can you drive a car effectively?’ you might answer, ‘I don’t think I could drive a car effectively because I am too young, and I don’t know how!’”

» Answers may vary for all.

- Can you effectively draw a picture with markers?
- Can you help an adult effectively unload the car?
- Can you effectively launch a space rocket from your kitchen table?
- Can you effectively organize your desk?
- Can you effectively help plan a surprise party for someone you love?
- Can you effectively juggle seven beanbags?

## Lesson 8: Cold-Blooded Scaly Vertebrates

# Writing



**Primary Focus:** Students will write a short reflection on being a herpetologist. [W.3.8]

### FIELD JOURNAL (15 MIN.)

- Have students complete the Field Journal on Activity Page 8.2.



#### MULTILINGUAL/ENGLISH LEARNERS

#### Writing Writing

#### Entering/Emerging

Provide students with sentence starters to complete Field Journal. Working in small groups, have students brainstorm being a herpetologist: A herpetologist is someone who \_\_\_\_.

#### Transitioning/ Expanding

Provide students with sentence starters to complete Field Journal in partners: Herpetologists study \_\_\_\_\_. This sounds interesting because \_\_\_\_\_.

#### Bridging

Provide students with sentence starters to complete Field Journal individually: Herpetologists study \_\_\_\_\_. This sounds interesting because \_\_\_\_\_. I would (not) want to be a herpetologist because \_\_\_\_\_.

### Activity Page 8.2



### D Differentiation

#### Support

Assist students by creating a list of reasons to support their answer on Activity Page 8.2.

## Lesson 8: Cold-Blooded Scaly Vertebrates

# Language



**Primary Focus:** Students will determine the meanings of words formed when *re-* or *pre-* are added to known root words. [L.3.4b]

### INTRODUCING PREFIXES *RE-* AND *PRE-* (15 MIN.)

#### Prefixes *re-* and *pre-*

- Review the Prefix poster that you displayed in the classroom.  
A prefix is a syllable placed in front of a root word. Prefixes change the meaning of the root word.
- Emphasize again that prefixes are added to the beginning of a root word. They change the meaning of the root word, and they add a syllable to the root word.
- Tell students that the two prefixes that they will study this week are *re-* and *pre-*.
- Explain that *re-* means “to do again” and *pre-* means “before.”
- Also, tell students that this week’s root words are verbs. Ask students what verbs are (action words). When *re-* and *pre-* are added to verbs, the new words are also verbs.
- Write the word *write* on the board. Briefly discuss the meaning of the word and then use it in a sentence. (to make letters, words, or numbers or to create something to be Read (e.g., “Mom asked me to write ‘green peppers’ on her grocery list.”))
- Add the prefix *re-* to write and have students read the prefix, read the new word, and then discuss the meaning of the new word.
  - » to make letters, words, or numbers again or to create something to be read again
- Ask students for examples of things that they might rewrite.
  - » Answers may vary but could include homework, something with sloppy handwriting, a paper with edits, etc.
- Continue in this manner for the remaining *re-* words, using the following chart as a guide.

**Note:** You will not write the information in the shaded columns on the board as that information is intended for use during oral instruction.

Root Word	Meaning	Affixed Word	Meaning	Sentence
do	(verb) to complete or perform an action	redo	(verb) to complete or perform an action again	I decided to <i>redo</i> one side of the fort I made for my social studies project because it didn't look right.
fill	(verb) to make something full	refill	(verb) to make something full again	Grandma asked me to <i>refill</i> her water glass during dinner.
load	(verb) to put things into a container	reload	(verb) to put things into a container again	We used a shovel to <i>reload</i> the wheelbarrow with dirt every time my brother emptied it.
name	(verb) to label something	rename	(verb) to label something again	Next year, we will <i>rename</i> our soccer team when the new coach arrives.
view	(verb) to look at	review	(verb) to look at again	I want to <i>review</i> my school supply list to make sure I didn't forget anything.
tell	(verb) to report information	retell	(verb) to report information again	Miss Brewster asked Thomas to <i>retell</i> the story in his own words.

- Remind students that *pre-* means “before.”
- Write the word *heat* on the board. Briefly discuss the meaning of the word and then use it in a sentence.
  - » To make warm or hot; I needed to *heat* my chicken nuggets in the microwave.
- Add the prefix *pre-* to *heat* and have students read the prefix, read the new word, and then discuss the meaning of the new word.
  - » to make warm or hot before
- Ask students for examples of things that you might need to *preheat*.
  - » Answers may vary but could include an oven before cooking, an iron before using it to iron a shirt, etc.

- Continue in this manner for the remaining *pre-* words, using the following chart as a guide.

**Note:** You will not write the information in the shaded columns on the board as that information is intended for use during oral instruction.

Root Word	Meaning	Affixed Word	Meaning	Sentence
pay	(verb) to give money for something	prepay	(verb) to give money for something before	My brother uses a cell phone plan that requires him to <i>prepay</i> for the next month of use.
print	(verb) to use a machine that makes pages of words or pictures	preprint	(verb) to use a machine that makes pages of words or pictures before	He chose to <i>preprint</i> directions to the arena in case he couldn't borrow his sister's navigation system.
set	(verb) to arrange	preset	(verb) to arrange before	Maria helped her sister <i>preset</i> the channels on her car radio before leaving.
select	(verb) to choose	preselect	(verb) to choose before	For my cousin's wedding reception, we had to <i>preselect</i> our dinner from several choices.
view	(verb) to look at	preview	(verb) to look at before	We will <i>preview</i> scenes from the next season of our favorite show.
cook	(verb) to prepare and heat food	precook	(verb) to prepare and heat food before	The roast was so large that Grandma had to <i>precook</i> it for several hours the night before our big family dinner.

### Activity Page 8.3



### D Differentiation

#### Support

Complete Activity Page 8.3 as a teacher-guided activity.

#### Challenge

Have students research and list additional words with the *re-* and *pre-* prefixes.

- Have students complete Activity Page 8.3 independently.



**MULTILINGUAL/ENGLISH LEARNERS**  
**Language**  
Foundational Skills

<b>Entering/Emerging</b>	Highlight prefixes <i>re-</i> and <i>pre-</i> on the Activity Page 8.3. Work in small groups with teacher. Provide students with the following examples to discuss the word <i>refill</i> : "I fill my cup up with water. I drink water. I <u>re</u> fill my cup with water."
<b>Transitioning/Expanding</b>	With partner, discuss the meaning of these words: <i>cook</i> vs. <i>precook</i> and <i>fill</i> vs. <i>refill</i> .
<b>Bridging</b>	With a partner, discuss the meaning of these words: <i>preselect</i> vs. <i>select</i> and <i>retell</i> vs. <i>tell</i> with partner.

### SPELLING (10 MIN.)

- Tell students that they will practice writing their spelling words for the week, just like they did with last week's spelling words.
- Tell students to turn to Activity Page 8.4.
- Ask all students to read the statement in Number 1 silently and fill in the blank. Point out to students that the root words are listed in the box on the worksheet, but they may need to use other forms of a root word with *-ed* and *-ing* added. These other words are not listed on the worksheet but are listed on the table displayed in the classroom with this week's spelling words.
- When students have completed Number 1, call on one student to read Number 1 aloud with the blank filled in with the spelling word.
- Discuss the proper spelling of the word in the blank, referencing the table of this week's spelling words. Have students compare their spelling with the spelling in the table. Also, discuss the correct answer to be sure students understand why it is correct.
- Have students move on to Number 2 and fill in the blank on their own.
- Have students take home Activity Page 8.4. Students use Activity Page 8.4 in Lesson 9.

### Activity Page 8.4



End Lesson

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**Lesson 8: Cold-Blooded Scaly Vertebrates**

# Take-Home Material

Activity Page 8.4

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- Have students complete the remainder of Activity Page 8.4.





## 9

# Reptiles

## PRIMARY FOCUS OF LESSON

### Reading

Students will closely read an informational text to learn more about reptiles. [RI.3.10]

Students will demonstrate an understanding of the Tier 2 word *venom*. [L.3.4]

### Writing

Students will record key information about reptiles. [W.3.2]

### Language

Students will determine the meaning of words formed when *-ed* or *-ing* are added to a known root word. [L.3.4b]

Students will check and correct spellings of words with suffixes *-ed* and *-ing* using a dictionary. [L.3.2g]

## FORMATIVE ASSESSMENT

### Activity Page 9.1

**Reptile Web** Record key information about reptiles. [W.3.2]

### Activity Page 9.2

**Blank Busters** Create your own Blank Busters sentences. [L.3.4b]



**Teacher Presentation Screens:**  
all lessons include slides

## LESSON AT A GLANCE

	Grouping Recommendations	Time	Materials
Reading (85 min.)			
Introducing the Reading	Whole Group	15 min.	<input type="checkbox"/> chart paper <input type="checkbox"/> Visual Support 9.1 <input type="checkbox"/> blank paper <input type="checkbox"/> <i>Rattenborough's Guide to Animals</i> <input type="checkbox"/> Activity Pages 9.1
Whole Group First Reading	Whole Group	20 min.	
Discussing the Reading	Whole Group	5 min.	
Word Work: <i>Venom</i>	Whole Group	5 min.	
Whole Group Second Reading	Whole Group	10 min.	
Discussing the Reading	Whole Group	10 min.	
Writing: Reptile Web	Whole Group	20 min.	
Writing (15 min.)			
Animal Classification foldable	Independent	15 min.	<input type="checkbox"/> Activity Page 3.2
Language (20 min.)			
Spelling: Blank Busters	Partner/ Independent	20 min.	<input type="checkbox"/> Activity Pages 8.4, 9.2
Take-Home Material			
Reptiles			<input type="checkbox"/> Take-Home Page 9.1

## ADVANCE PREPARATION

### Reading

- Designate an area on the chalkboard or dry erase board space in the classroom. If space is not available, post chart paper up in the classroom.
- On chart paper, create the following or prepare to display Visual Support 9.1.

### ➤ Visual Support 9.1

Close Reading
1 <sup>st</sup> Read: Big Picture
Focus on: <ul style="list-style-type: none"><li>• Main idea</li><li>• Asking and answering questions</li><li>• Summarizing the text</li><li>• Describing important parts</li><li>• Retelling</li></ul>
2 <sup>nd</sup> Read: Dig Deeper
Focus on: <ul style="list-style-type: none"><li>• Text features and text structures</li><li>• Author's purpose</li><li>• Vocabulary words</li></ul>
3 <sup>rd</sup> Read: All Together
Focus on: <ul style="list-style-type: none"><li>• Compare and contrast to other texts</li><li>• Inferences</li><li>• Key points</li></ul>

### Universal Access

This lesson focuses on close-reading skills. Ask students if they have ever read a text more than once.

- Ask students if they have seen a movie more than once. Lead a group discussion on what students learned the second time they read a book or watched a movie. Ask students if they noticed or learned anything the second time.
- Discuss with students the benefits of reading a book or watching a movie twice. Record student answers on the board or chart paper.

- After the lesson, return to students' responses on chart paper after reading "Reptiles" twice.
- To ensure that all students have the opportunity to contribute during Turn and Talk and Think-Pair-Share exchanges, provide students with a signal such as folding their hands or raising a hand to indicate when both partners have added to the conversation.

## Lesson 9: Reptiles

# Reading



### Primary Focus

Students will closely read an informational text to learn more about reptiles.

[RI.3.10]

Students will demonstrate an understanding of the Tier 2 word *venom*. [L.3.4]

### VOCABULARY FOR READING: “REPTILES”

- The following are vocabulary words used in this lesson. Preview the words with the students before the lesson and refer back to them at appropriate times. The words also appear in the glossary in the back of the student reader.

**inject, v.** to force in fluid, usually by piercing the skin (**injects**)

**venom, n.** poison produced by an animal used to harm or kill another animal

**molt, v.** to shed skin (**molting, molted**)

Vocabulary Chart for “Reptiles”		
Type	Tier 3 Domain-Specific Words	Tier 2 General Academic Words
Vocabulary	molt	
Spanish Cognates		inyectar veneno
False Spanish Cognates		
Multiple-Meaning		inject venom
Sayings and Phrases		

## INTRODUCING THE READING (15 MIN.)

- **Splash the Chalkboard:** Pass out paper to each student. Ask students to brainstorm what they learned about reptiles in the previous lesson on their paper. After five minutes of brainstorming, ask students to come up to the board and record their responses. After students have recorded their responses, ask students to analyze the responses for similarities, differences, and surprises.
- Tell students that we are going to read another text about reptiles. Explain that today's reading will be a little different from previous readings. Today we are going to read a passage twice. During each reading, we will focus on different aspects of the text.
- **Write-Pair-Share:** On the back of the paper, have students write one or two sentences that predict what they will learn about reptiles in today's reading. After writing, tell students to share their writing with a partner. Remind students to signal when both partners have contributed to the conversation.
  - » similarities and differences between different reptiles, more animals identified as reptiles, more reptile habitats

### ➤ Visual Support 9.1

- Refer to the previously created chart or display Visual Support 9.1. Read through the difference between the 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> readings. Explain that good readers read a text many times and learn new things during each reading.

## WHOLE GROUP FIRST READING (20 MIN.)

- Tell students to turn to the Table of Contents and locate today's chapter, "Reptiles." Have students turn to the first page of the chapter and follow along during the reading.

# 11 Reptiles



Hi again, it's Rattenborough! You have already learned a little about today's group of animals, which are **reptiles**. You already know that **reptiles** are **cold-blooded** animals and **vertebrates**. But did you know that **reptiles** live both on land and in water like **amphibians**? **Reptiles** have lungs from the time they are born, not **gills**, like **amphibians**.

You may also already know that **reptiles** lay eggs. Some **reptile** eggs have soft shells and some have hard shells. They lay their eggs on land. A few snakes hold the eggs inside their bodies until they hatch. Very few rare **reptiles** do give birth to live young, never making real eggs.

Many different groups of animals are classified as **reptiles**. These include animals such as crocodiles, alligators, turtles, tortoises, snakes, and lizards.



*Crocodiles, turtles, snakes, and lizards are all **reptiles**.*

## Pages 92–93

- Read the title of the chapter together as a class: “Reptiles.”
- Have one student read Rattenborough’s greeting in the first paragraph on **page 92**.
- Ask students to read **pages 92–93** to themselves to find out some characteristics of reptiles.
- When students have finished reading, ask them to list some characteristics of reptiles.
  - » cold-blooded, vertebrates, live both on land and in water, lay eggs
- Ask students to name some reptiles and read the sentence that has the answer.
  - » These include animals such as crocodiles, alligators, turtles, tortoises, snakes, and lizards.
- Ask students to summarize the second paragraph.
  - » Reptiles lay eggs.



Some people may think **reptiles**, mainly snakes, are scary. Most **reptiles** will not harm people. But there are some **reptiles** that you should try to avoid. The black mamba is the best example. This is the longest and most **venomous** snake in Africa. It is also the deadliest snake in the world. A mamba **injects venom** whenever it bites something. A mamba bite can kill any animal—even a human—in less than 20 minutes!

Rattlesnakes, copperheads, and water moccasins are types of **venomous** snakes found in the United States. Rattlesnakes, or rattlers, are easy to spot because they have “rattles” that shake on their tails. You know when there is one nearby because you can hear the rattles shaking.

Copperheads have a triangle-shaped head and dark stripes. They are normally less than three feet long. They prefer to live in rocky, wooded areas. They only bite humans if they are attacked or startled.

Water moccasins live in the water so they are hard to spot. They have a dangerous bite, but rarely attack humans. If you live in a southern state like Florida, Alabama, Mississippi, or Louisiana, you are more likely



*Rattlesnake*



*Copperhead*



*Water Moccasin*

## Pages 94–95

- Ask students to read **pages 94–95** to themselves to answer the question: “What snake is the longest and most venomous in Africa?”
- When students have finished reading, restate the question and ask them to answer.
  - » black mamba
- **Write-Pair-Share:** Distribute paper and display the following sentence:
  - » Copperheads live in rocky, wooded areas.
- Have students expand the sentence with an appositive. After writing, tell students to share their writing with a partner. Remind students to signal when both partners have contributed to the conversation.
  - » Answers may vary, but could include, “Copperheads, poisonous snakes that have triangle-shaped heads and dark stripes, live in rocky, wooded areas.”

to see one. They live in swamps or shallow lakes. You might want to avoid swimming in shallow waters if you live in those states.

Some people think snakes are slimy because their skin looks shiny, but most **reptiles** have thick, dry, scaly skin. **Reptiles** are known for **molting**, or shedding their skin. **Reptiles** shed their skin several times during their lives. Snakes, for example, shed their skin in one big piece. They do this when they grow too big for their current skin.

The biggest **reptile** is the saltwater crocodile, which lives mainly in Australia and a few parts of India and Asia. Male saltwater crocodiles can grow to be 20 feet long or more! Attacks on humans are rare. If they do attack a human, it's usually not a happy ending.

Crocodiles have the most powerful bite in the entire animal **kingdom**. Their bites are ten times stronger than that of a great white shark. Despite their power when they bite and snap their jaws shut, it is fairly easy to hold a crocodile's mouth closed. They open their mouths using a weak set of muscles. In fact, a third grader may be able to hold a crocodile's jaw shut . . . would you like to try?



*This snakeskin has been left behind by a large snake after it **molted**.*

96

97

## D Differentiation

### Challenge

Have students write their own questions and answers about the text.

### Pages 96–97

- Ask students to read the first paragraph of **page 96** to themselves to answer the question: “How many times do reptiles shed their skin?”
- When students have finished reading, restate the question and ask students to answer.
  - » several times in their lives
- Tell students to continue to read **page 96** to themselves to answer the question: “What is the biggest reptile?”
- When students finish reading, restate the question and ask students to answer.
  - » saltwater crocodiles
- What is the main idea of **Page 96**?
  - » Crocodiles are the biggest reptiles, with the most powerful bite.

## DISCUSSING THE READING (5 MIN.)

1. **Literal.** Name four animals classified as reptiles.
  - » Answers may vary but could include crocodile, alligator, turtle, tortoise, snake, and lizard.
2. **Literal.** Why is a rattlesnake easy to identify?
  - » You can hear the “rattles” shaking on its tail.
3. **Literal.** What reptile has the most powerful bite in the animal kingdom?
  - » crocodile



### MULTILINGUAL/ENGLISH LEARNERS

#### Reading

##### Reading/Viewing Closely

<b>Entering/Emerging</b>	Ask questions based on “Reptiles.” Ask students to determine whether the statement is true or false, e.g., “Some reptiles shed their skin: true or false?”
<b>Transitioning/Expanding</b>	Prompt students to use key vocabulary when answering questions, e.g., “What is it called when a snake sheds its skin?” (molting)
<b>Bridging</b>	After reading “Reptiles,” discuss with students the most interesting facts. Encourage students to find two facts about reptiles and find examples from the text.

## WORD WORK: VENOM (5 MIN.)

- In the Read-Aloud, you heard, “A mamba injects venom whenever it bites something.”
- Say the word *venom* with me.
- Venom is poison made by animals to harm or kill another animal.
- Poisonous snakes use venom to attack or protect themselves from other animals.
- Can you identify other animals with venom? How would you describe them? Be sure to use the word *venom* when you tell about it. (Ask two to three students. If necessary, guide and/or rephrase students’ responses to make complete sentences: “I know \_\_\_\_\_ is an animal with venom because . . .”)
- What’s the word we’ve been talking about? What part of speech is the word *venom*?
  - » *venom*; noun

- **Use a Multiple-Meaning Word activity for follow-up.** Tell students that the word *venom* can have different meanings as a noun. Share the following definitions:

- Meaning 1: venom, n. poison made by animals to harm or kill another animal
- Meaning 2: venom, n. a cruel, harsh, or hateful feeling

Read a few sentences aloud. Have students listen to the context for clues as to which meaning of venom is used. Have them hold up one finger when they think the sentence is an example of Meaning 1, and two fingers if the sentence is an example of Meaning 2.

1. We heard another student speak to my friend with such venom in her words. (2)
2. Instead of choosing words with such venom, try speaking with others with kindness. (2)
3. My mom saw a rattlesnake's venom drip from its teeth. (1)
4. A cottonmouth's venom kills fish underwater. (1)

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#### WHOLE GROUP SECOND READING (10 MIN.)

- Explain that the whole class will read the chapter again, but focus on text structures, words and phrases, and author's purpose.



# 11 Reptiles



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You may also already know that **reptiles** lay eggs. Some **reptile** eggs have soft shells and some have hard shells. They lay their eggs on land. A few snakes hold the eggs inside their bodies until they hatch. Very few rare **reptiles** do give birth to live young, never making real eggs.

Many different groups of animals are classified as **reptiles**. These include animals such as crocodiles, alligators, turtles, tortoises, snakes, and lizards.



*Crocodiles, turtles, snakes, and lizards are all **reptiles**.*

## Pages 92–93

- Ask students to read **pages 92–93** to themselves to find out how the photos and captions on **page 93** support the text.
- When students have finished reading, ask them to explain the photos and caption.
  - » The top two photos show crocodiles from babies to adults. The middle pictures show the same: turtles from a baby to an adult. The bottom left picture shows a snake. It is pictured without eggs because snakes hold their eggs inside their bodies until they hatch. The bottom right picture shows a lizard with its eggs.

Some people may think **reptiles**, mainly snakes, are scary. Most **reptiles** will not harm people. But there are some **reptiles** that you should try to avoid. The black mamba is the best example. This is the longest and most **venomous** snake in Africa. It is also the deadliest snake in the world. A mamba **injects venom** whenever it bites something. A mamba bite can kill any animal—even a human—in less than 20 minutes!

Rattlesnakes, copperheads, and water moccasins are types of **venomous** snakes found in the United States. Rattlesnakes, or rattlers, are easy to spot because they have “rattles” that shake on their tails. You know when there is one nearby because you can hear the rattles shaking.

Copperheads have a triangle-shaped head and dark stripes. They are normally less than three feet long. They prefer to live in rocky, wooded areas. They only bite humans if they are attacked or startled.

Water moccasins live in the water so they are hard to spot. They have a dangerous bite, but rarely attack humans. If you live in a southern state like Florida, Alabama, Mississippi, or Louisiana, you are more likely



Rattlesnake



Copperhead



Water Moccasin

## D Differentiation

### Support

Remind students that the glossary provides a definition for all bolded words in the selection.

### Pages 94–95

- Ask students to read **pages 94–95** to themselves to answer the question: “Do you think reptiles are scary?”
- When students have finished reading, restate the question and ask them to answer.
  - » Answers may vary.

“Do you agree or disagree with the author that some people think reptiles, mainly snakes, are scary?”

“What does *inject* mean?”

- » to force in fluid, usually by piercing the skin

Where else have you heard the word *inject*?

- » vaccinations/shots

- Ask students to look over the photos and read the caption on **page 95** to answer the question: “How did the photos on **page 95** help you to understand the reading on **page 94**?”
- When students have finished reading, restate the question and ask them to answer.
  - » The reading focuses on the main characteristics of the rattlesnake, copperhead, and water moccasin. The photos on **page 95** show each of their unique features: the rattle on the rattlesnake, the triangle-shaped head and dark stripes of the copperhead, and the water moccasin’s habitat in water.

to see one. They live in swamps or shallow lakes. You might want to avoid swimming in shallow waters if you live in those states.

Some people think snakes are slimy because their skin looks shiny, but most **reptiles** have thick, dry, scaly skin. **Reptiles** are known for **molting**, or shedding their skin. **Reptiles** shed their skin several times during their lives. Snakes, for example, shed their skin in one big piece. They do this when they grow too big for their current skin.

The biggest **reptile** is the saltwater crocodile, which lives mainly in Australia and a few parts of India and Asia. Male saltwater crocodiles can grow to be 20 feet long or more! Attacks on humans are rare. If they do attack a human, it's usually not a happy ending.

Crocodiles have the most powerful bite in the entire animal **kingdom**. Their bites are ten times stronger than that of a great white shark. Despite their power when they bite and snap their jaws shut, it is fairly easy to hold a crocodile's mouth closed. They open their mouths using a weak set of muscles. In fact, a third grader may be able to hold a crocodile's jaw shut . . . would you like to try?



*This snakeskin has been left behind by a large snake after it **molted**.*

96

97

## D Differentiation

### Challenge

Which photo best supports the text in the chapter? Explain.

### Pages 96–97

- Ask students to look over the photos and read the captions on **page 97** to answer the question: “How do the photos on **page 96** support the text on **page 97**?”
- When students finish reading, restate the question and ask students to answer.
  - » The top photo shows a snake molting and the bottom photo shows the skin in one big piece.
- Tell students to read **page 96** to themselves to answer the question: “What does the author mean when the text says, ‘it is usually not a happy ending?’ ”
- When students finish reading, restate the question and ask students to answer.
  - » When crocodiles attack humans, the humans usually die.



## DISCUSSING THE READING (10 MIN.)

- How do you know this selection is nonfiction?
  - » The text is about real animals and presents facts that are true.
- What text features did the author include to help the reader?
  - » The author uses bold print words to signal key words; photos and captions are also used to support the text with a picture.
- How did the author organize the ideas in the chapter?
  - » Starts with characteristics of reptiles, discusses types of snakes and their characteristics, followed by crocodiles and their characteristics

## WRITING: REPTILE WEB (20 MIN.)

- Using Activity Page 9.1, students will gather information as reinforcement and also as notes for the formal paragraph assignment they will write later in the unit.
- In the central oval, students will see the word *reptiles*. In each surrounding oval, students will write words or phrases that describe the characteristics of animals in that group. They should also include in one of the surrounding ovals examples of animals in this group based on what they heard in the Read-Aloud today.
- Partner: With a partner using Activity Page 9.1, students will gather information as reinforcement and also as notes for the writing assignment they will write later in the unit.
- In the central oval, students will see the word *reptiles*. In each surrounding oval, students will write words or phrases that describe the characteristics of animals in that group. They should also include in one of the surrounding ovals examples of animals in this group based on what they heard in the Read-Aloud and reading today.

### Activity Page 9.1



## Lesson 9: Reptiles

# Writing



**Primary Focus:** Students will record key information about reptiles.  
[W.3.2]

### ANIMAL CLASSIFICATION FOLDABLE (15 MIN.)

- Have students complete the remaining information in the “Reptiles” section on Activity Page 3.2. Remind students to choose a reptile to draw on page 1. If time permits, tell students that they can add additional information in the “Amphibians” and “Fish” sections.

Activity Page 3.2



#### MULTILINGUAL/ENGLISH LEARNERS

### Writing

#### Writing

#### Entering/Emerging

In a small group, guide students to include key information on Activity Page 3.2: Reptiles section. Assist students in selecting the first fact about reptiles.

#### Transitioning/Expanding

Students work with partners to complete Activity Page 3.2. Encourage students to include three facts about reptiles on the Foldable. Actively encourage students to refer back to the text to find the facts about reptiles.

#### Bridging

Have students work independently to complete Animal Foldable. Include three facts. When finished, students will read aloud their facts to a partner.

## Lesson 9: Reptiles

# Language



#### Primary Focus

Students will determine the meaning of words formed when *-ed* or *-ing* are added to a known root word. [L.3.4b]

Students will check and correct spellings of words with suffixes *-ed* and *-ing* using a dictionary. [L.3.2g]

## SPELLING: BLANK BUSTERS (20 MIN.)

### Blank Busters

- Have students take out Activity Page 8.4 from Lesson 8.
- Using the first sentence, model using the dictionary to check the spelling of the word *prepared*. Have students follow the same process to check the spelling of the word *prepared*. Explain that they are going to follow the same process to check each of the answers on their pages.
- Have students find a partner and review their answers. After the review, explain that they are using a dictionary to check their partner's answers.
- Whole Group: As a whole group, review the answers on Activity Page 8.4. Have students use the dictionary to check each answer again.
- Have students turn to Activity Page 9.2 and complete independently.



#### MULTILINGUAL/ENGLISH LEARNERS Language Foundational Skills

<b>Entering/Emerging</b>	Work in small groups on Activity Page 9.2, answering one question aloud.
<b>Transitioning/Expanding</b>	Have students work with a partner to complete Activity Page 9.2. Model adding <i>-ed</i> and <i>-ing</i> to words to change the meaning such as, "I translated Spanish to English. I am translating a language."
<b>Bridging</b>	With a partner, have students choose two words from Activity Page 9.2. Discuss the meaning of these words.

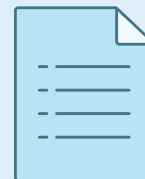
End Lesson

### Lesson 9: Reptiles

## Take-Home Material

- Have students read Take-Home Page 9.1 to an adult.

### Activity Page 8.4



### Activity Page 9.2



### Take-Home Page 9.1



## 10

# Wings and Feathers, Part 1

**PRIMARY FOCUS OF LESSON****Language**

Students will use conventional spelling patterns when adding suffixes *-ed* or *-ing* to root words. [L.3.2e]

**Speaking and Listening**

Students will determine the definition of key vocabulary words about birds. [RI.3.4]

Students will demonstrate an understanding of the Tier 2 word *metabolism*. [L.3.4]

**Writing**

Students will write a short reflection about the most important thing about being a bird. [W.3.8]

**FORMATIVE ASSESSMENT****Activity Page 10.1**

**Spelling Assessment** Use conventional spelling patterns when adding suffixes. [L.3.2e]

**Activity Page 10.3**

**Bird Vocabulary** Define key vocabulary words. [RI.3.4]

**Activity Page 10.4**

**Bird Web** Identify key characteristics of birds. [W.3.8]

**Activity Page 10.5**

**Field Journal** Explain two new things you learned about birds. [W.3.8]



**Teacher Presentation Screens:**  
all lessons include slides

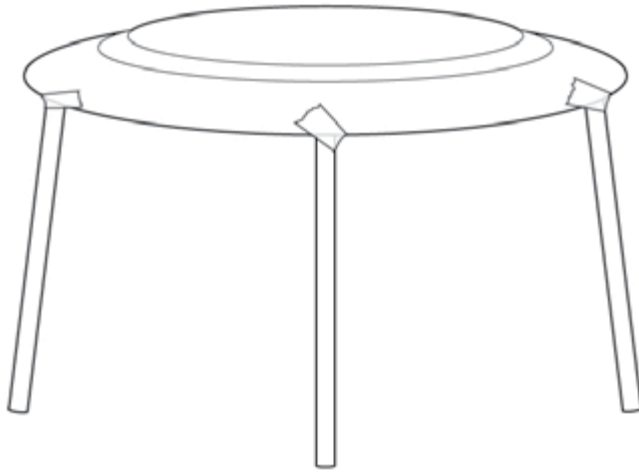
## LESSON AT A GLANCE

	Grouping Recommendations	Time	Materials
Language (20 min.)			
Spelling Assessment	Whole Group	20 min.	☐ Activity Page 10.1
Speaking and Listening (80 min.)			
Introducing the Read-Aloud	Partner	15 min.	☐ Activity Pages 10.2, 10.3 ☐ Context Clues Anchor chart (Lesson 8) ☐ three straws ☐ tape ☐ paper plate ☐ pennies ☐ Bald Eagle poster ☐ rectangle paper for each student ☐ measuring tape ☐ Bird Feet Cards
Presenting the Read-Aloud	Whole Group	50 min.	
Discussing the Read-Aloud	Whole Group	10 min.	
Word Work: <i>Metabolism</i>	Whole Group	5 min.	
Writing (20 min.)			
Bird Web	Independent	10 min.	☐ Activity Pages 10.4, 10.5
Field Journal	Independent	10 min.	
Take-Home Material			
Birds			☐ Take-Home Page 10.1

## ADVANCE PREPARATION

### Speaking and Listening

- Identify the following digital images online at [learning.amplify.com](https://learning.amplify.com) to project during the Read-Aloud: 10A-1–13.
- Build a table using three strips of a large sponge, paper plate, and tape.



- Bald Eagle poster with wingspan (similar to photo below).



- Prepare the bird feet cards.

**Bird A**



**Bird B**



**Bird C**



**Bird D**



**Bird E**



### Universal Access

- Provide additional books, articles, and photographs of birds and bird parts.
- Display vocabulary words and images from the unit to reinforce learning.
- Create partners strategically.
- To ensure that all students have the opportunity to contribute during Turn and Talk and Think-Pair-Share exchanges, provide students with a signal such as folding their hands or raising a hand to indicate when both partners have added to the conversation.

## Lesson 10: Wings and Feathers, Part 1

## Language



**Primary Focus:** Students will use conventional spelling patterns when adding suffixes *-ed* or *-ing* to root words. [L.3.2e]

## SPELLING ASSESSMENT (20 MIN.)

## Activity Page 10.1



- Have students turn to Activity Page 10.1 for the spelling assessment.
- Call out each word one at a time in the following manner; say the word, say a sentence with the word in it, and then say the word again.
- Tell students that at the end, you will go back through the list once more.

1. dine	7. file
2. smile	8. vote
3. prepare	9. raise
4. translate	10. quote
5. rake	<b>Challenge Word:</b> <i>does</i>
6. tire	<b>Challenge Word:</b> <i>done</i>

- After you have called out all of the words including the Challenge Words, go back through the list slowly reading each word just once more.
- Ask students to write the following sentence as you dictate it:
  - “I like to dine at home with my family.”
- Then, ask students to add *-ed* and *-ing* to each of the root words. Tell students not to add endings to the Challenge Words.

**Note:** At a later time, you may find it helpful to use the template provided at the end of this lesson to analyze students' mistakes. This will help you to understand any patterns that are beginning to develop or that are persistent among individual students.



## Lesson 10: Wings and Feathers, Part 1

# Speaking and Listening



### Primary Focus

Students will determine the definition of key vocabulary words about birds. [RI.3.4]

Students will demonstrate an understanding of the Tier 2 word *metabolism*. [L.3.4]

### VOCABULARY FOR READ-ALOUD

- The following are core vocabulary words used in this lesson. Preview the words with the students before the lesson. Students are not expected to be able to use these words immediately, but with repeated exposure throughout the lessons they will acquire a good understanding of most of the words. Students may also keep a “unit dictionary” notebook along with definitions, sentences, and/or other writing exercises using these vocabulary words.

**cavity, n.** a hollow space within a body, a bone, or an organism

**glide, v.** to move smoothly and continuously

**insulation, n.** material that separates an area in order to keep in a form of energy

**nest, n.** a structure formed and used by animals for laying and hatching eggs

**metabolism, n.** the process that occurs when food is changed to energy in cells of the body

#### Vocabulary Chart for “Birds: Wings and Feathers”

Type	Tier 3 Domain-Specific Words	Tier 2 General Academic Words
Vocabulary	cavities insulation nest	glide metabolism
Multiple-Meaning	cavities nest	
Sayings and Phrases		



### INTRODUCING THE READ-ALOUD (15 MIN.)

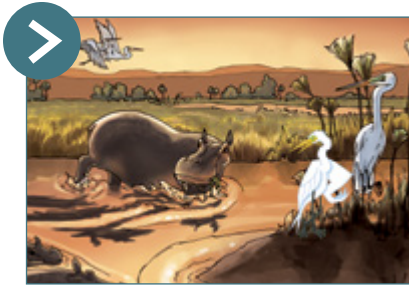
- **Bird Watching:** Have the students turn to Activity Page 10.2. Explain to students that, with a partner, they will observe birds and record their observations on Activity Page 10.2. Students will record specific descriptions of birds such as color and their movements. Remind students to find a quiet spot to observe and try not to move so birds do not get startled.

**Note:** Students may complete Activity Page 10.2 indoors or outdoors. If no birds are present outside, pull up a video of birds.

- After students have finished their observations, have students share key observations recorded on Activity Page 10.2.

### PRESENTING THE READ-ALOUD (50 MIN.)

- Write the following questions on the board:
  - What do you see?
  - What do you think about it?
  - What does it make you wonder?
- During the reading, pause when displaying Image 10A-3, the anatomy of the bird. Have students write a one-sentence response to the questions on the board. Bring students back together and discuss how the image can help a reader's understanding of the main idea and key details of a text. When students answer what this image makes them wonder about, they may pose questions about the up-close image of a bone. You can explain that an illustrator can create smaller images within images to show details about information in the text.
- Tell students that in today's Read-Aloud, they will learn more about birds. Explain that throughout the Read-Aloud, the class will pause to discuss key vocabulary and unique bird characteristics.
- **Vocabulary Clues:** As a class, review the Context Clues Anchor chart from Lesson 8 to define unknown vocabulary words.

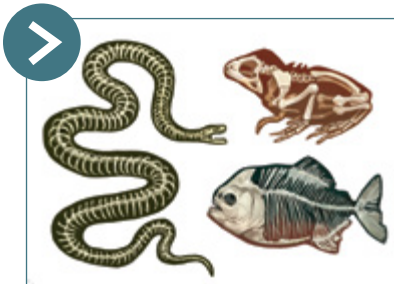


### Show Image 10A-1

#### African habitat with Ebenezer Egret

Hello, folks. It's me, Rattenborough once again. If you recall, you learned all about reptiles last time. How exciting that was! Can you remember which group of animals you are going to hear about today?

Birds! I can't wait to tell you all about my friend Ebenezer. I met him on the continent of Africa. Before I tell you about him, I thought we would begin today's lesson by quickly reviewing how Paolo, Tabitha, and Anna are related to each other. Remember, just because they don't look the same, they do have quite a bit in common, beginning with the fact that they are all members of the animal kingdom.



### Show Image 10A-2

#### Three animal skeletons

I brought along special diagrams of their skeletons to help you. Can you tell which skeleton belongs to each animal? What common characteristic is visible in all three? Yes, all three of them have backbones, so as

you probably recall, scientists classify them as . . . yes—vertebrates!

We're not going to spend much time talking about their internal body temperatures today. By now you should know that none of them have constant body temperatures. Paolo, Tabitha, and Anna are all cold-blooded and their temperature changes depending on their surroundings. That makes two characteristics that all three of them hold in common: the fact that they are all vertebrates, and the fact that they are all cold-blooded animals. So, now let's see where Ebenezer Egret fits in. We know that he belongs to the animal group classified as birds. Let's confirm it: Are birds vertebrates?



### Show Image 10A-3

#### Anatomy of a bird

Indeed they are. Ebenezer has a strong backbone that reaches all the way up his long neck and supports his head. His bony skeleton is very important. His bones are extremely light with lots of air cavities, or hollow places, inside them to help him fly. He uses his muscular legs to push off the ground, and then his wings take over. The weight and arrangement of his bones help him soar through the air.

- **Vocab Pause:** Whole group. Write the following sentence on the board:
  - “Their bones are extremely light with lots of air cavities, or hollow places, inside them to help them fly.”
- Ask students to define *cavities*. Explain that the definition of *cavities* is in the sentence. Circle the commas in the sentence and explain that after the vocabulary word *cavities* the definition is given.
- **Bird Bone Experiment:** Review with students that birds have strong, hollow bones very similar to a sponge. Show the class the table created out of strips of a large sponge and a paper plate.
- Ask students “How many pennies do you think this table will hold?” Have students make guesses.
- Add pennies to the plate until the structure falls. Be sure to place pennies all around the plate.
- Reflection: “Did this experiment change the way you think about bird bones?”



### Show Image 10A-4

#### Egrets and Ebenezer in flight

Birds are the lucky ones, aren't they? How many of you have ever wished that you could fly? I do like very much being a rat, but sometimes I think it would be great fun to fly. Ebenezer is very graceful, isn't he?

So far you have learned in detail just about cold-blooded animals—reptiles, amphibians, and fish. Do you think Ebenezer and all birds are cold-blooded, too? Scientists classify birds as warm-blooded, because their internal body temperature remains constant no matter where they fly.



### Show Image 10A-5 Egrets

Birds have several characteristics that enable them to fly, but being warm-blooded is essential to flight. They have a very high metabolism as only warm-blooded animals do. Metabolism is the process that produces

energy in most animals' bodies. When we speak about the high metabolism of birds, we are speaking about the fact that they have a steady flow of energy that helps them maintain the high levels of activity required by flight. The higher the activity level of an animal, the higher its metabolism is likely to be. What this means when it comes to eating is that they need lots of food to maintain that energy.

Have you ever heard the saying “eats like a bird” for someone who eats very small amounts of food at one time? Ebenezer told me that an important thing to remember about this expression is that it does not mean that birds do not eat very much. In fact, Ebenezer and birds like him need to eat two times their body weight in food every day, because they have such a high metabolism and burn lots more energy than most animals. Of course, there are lots of small meals a day for birds, quite unlike Anna Anaconda who sometimes eats only one big meal in a period of many days. So, someone who “eats like a bird” is usually someone who “picks” at their food and only eats small bits at a time.

## D Differentiation

### Support

On the board, write *warm-blooded* and *cold-blooded*. Remind students that cold-blooded animals' body temperature changes with the surroundings and warm-blooded animals' body temperature remains the same.

- **Vocabulary Pause:** Write the following sentence on the board:
  - “They have a very high metabolism as only warm-blooded animals do. Metabolism is the process that produces energy in most animals' bodies.”
- Ask students to define *metabolism*. Explain that this sentence is an example of looking for the definition after the vocabulary word.

- **Bald Eagle Wingspan:** Show students an image of a bald eagle's wingspan. Explain that the wingspan of a bald eagle is seven to nine feet.
- Pass out white rectangle paper to each student. In pairs, have one student lay down with their back on the paper as the other student traces their wingspan. With a tape measure, each student will measure their own wingspan.

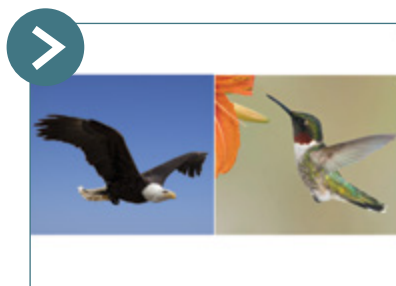


### Show Image 10A-6 Ebenezer and Real Egret

So, like all birds, Ebenezer is warm-blooded. And he's a vertebrate with lightweight bones to help him fly. Look at this image, and describe some other physical characteristics that help scientists classify Ebenezer as a bird. Good eyes, students.

Let's begin with his wings. Ebenezer has wings, and wings are essential to flight. Each bird has a unique shape to its wings. Different shapes of wings can give birds different flight qualities, such as speed, sound, and agility.

- **Write-Pair-Share:** Distribute paper and display the following sentence starter:
  - Birds are vertebrates...
- Have students write a sentence using the conjunctions *because*, *but*, and *so*. After writing, tell students to share their writing with a partner. Remind students to signal when both partners have contributed to the conversation.
  - » Answers may vary but could include "Birds are vertebrates because they have backbones," "Birds are vertebrates, but their bones are light and filled with air cavities to help them fly," or "Birds are vertebrates, so they have something in common with reptiles, amphibians, and fish."



### Show Image 10A-7 American Bald Eagle and Hummingbird

Look at this picture of an American bald eagle. His long, broad wings are built so that he can glide, or move smoothly and continuously. He can soar great distances, traveling up to 65 miles per hour. Compare the eagle's wings to the tiny, tapered wings of the hummingbird, one

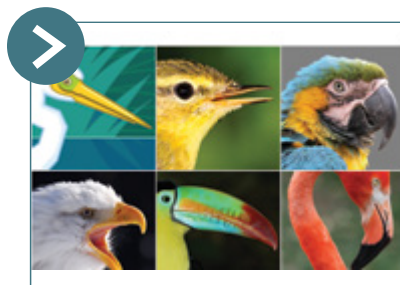
of the smallest birds on Earth. His wings beat rapidly, twenty or more beats per second, as he hovers, or floats and flutters, in midair.



### Show Image 10A-8 Bird Feathers

What else helps Ebenezer and all birds fly? Feathers are a great help, serving as lightweight coverings for their wings. They mesh together as their wings flap downward, parting again to let air through as their wings sweep upward. Feathers also act as

**insulation.** Insulation is an extra layer that protects birds' skin from the sun and traps in heat, providing energy and warmth in the winter months. The point of the feather where it is attached to a bird's body is called the quill. All birds have feathers. No other animals do, so if you spot a feathered friend, you may assume that it's a bird. Because their precious feathers take quite a beating, birds take good care of them, and often preen them with their beaks to keep them clean, waterproof, and in the right position.



### Show Image 10A-9 Ebenezer's Beak, a Finch's Beak, and Other Bird Beaks

Take a look at Ebenezer's beak. Isn't it a beauty? Not all birds have such long beaks. Why do you think his is so long? Well, I'll tell you. He told me it's a terrific hunting weapon. He uses the end of his beak to grab small prey

such as snails and crayfish in the surface waters of the marshland and to spear larger prey such as frogs and snakes on marshy wetlands.

Appearing in many different shapes and sizes, beaks are often used to identify birds. Their main function is for feeding, so a bird's beak can provide scientists with clues to a bird's eating habits. Take a look at this finch's beak. Depending upon where you live, you may have seen a finch at your bird feeder. They use their beaks to crack open seeds. Next time you see a bird, look at its beak and see if you can guess whether it eats fish, seeds, insects, mice, or nectar.



- **Vocabulary Pause:** Write the following sentences on the board:
  - “Feathers also act as insulation. Insulation is an extra layer that protects birds’ skin from the sun and traps in heat, providing energy and warmth in the winter months.”
- Tell students that you will give them three possible definitions for *insulation*. When they hear the correct definition, students will raise their hand.
  - Definition of *insulation*:
    - move smoothly
    - mesh together
    - an extra layer



### Check for Understanding

If students failed to identify the correct definition for *insulation*, review the sentences on the board, highlighting the sentence that follows the vocabulary word as the definition.



### Show Image 10A-10 Bird Feet

Birds’ feet are another clue to different bird habitats and lifestyles. Hawks have long talons, or claws, to catch their prey; waders have long legs; woodpeckers have feet adapted to climbing trees; perching birds

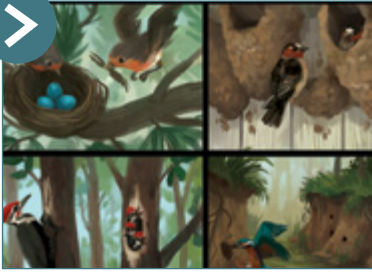
have single hind, or rear, toes for grasping branches; and ducks and geese have webbed feet for swimming.



### Small Group

- **Birds’ Feet:** In small groups, pass out a set of the bird feet cards. Have students predict the characteristics of the birds based on their feet. Have groups share their predictions and explanations with the class.





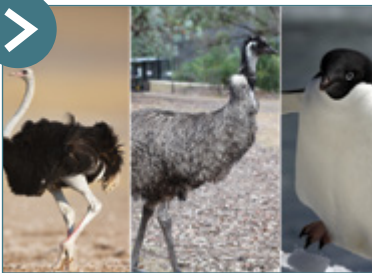
### Show Image 10A-11

#### Bird Nests

Birds are the only group of animals that give birth by only one means—there are fascinating pattern-breakers in all of the other groups. All birds lay eggs. Their eggs are yolk-filled and have hard, calcified shells.

They need to be incubated, or kept warm, so the parents sit on them until they hatch. This can be dangerous because sitting birds are prime targets for predators. Most birds prepare a **nest**, or shelter for their young, using whatever materials are available to them in nature. Some make nests from twigs and straw; others build nests of mud; woodpeckers create cavities in trees, whereas kingfishers bore into riverbanks. These nests provide safe havens, or safe places, protecting both eggs and baby chicks from harsh weather and animal predators.

Some birds, like chickens, are able to see, walk, and feed themselves almost immediately after hatching. However, many birds are born in a very immature stage and require a lengthy period of parental care.



### Show Image 10A-12

#### Ostrich, Emu, and Penguin

We spent lots of time today talking about what helps birds fly—strong muscles, light bones, powerful wings, and airy feathers. But did you know that in spite of having all those things in common, some birds are unable to fly?

Flightless birds include the largest bird on Earth, the ostrich. With a seven-foot wingspan, it seems odd that ostriches can't fly, but they hold records for being both the fastest birds on land and the fastest two-legged animals on Earth, able to run up to 40 miles per hour! Australian emus [ee-myoos], also large and flightless, look a lot like ostriches and often travel long distances to find food. Penguins are perhaps the most endearing, or affection-inspiring, of all flightless birds, marching upright like people as they move around in their habitats. These

aquatic birds of the Southern Hemisphere waddle along on their short legs and webbed feet down to the sea. Their wings serve as flippers to carry them swiftly through arctic waters, traveling up to 15 miles per hour.



### Show Image 10A-13 Birds in Different Habitats

Birds live all over the world—in cool, wet rainforests; along ocean shores; in dark, dense evergreens; in hot, dry deserts; and on the banks of lakes, rivers, and streams. Some travel long distances, migrating to warmer

homes in winter, whereas others are homebodies, never straying very far from where they were born. Some can swim and others can fly. Some enchant us with their songs, whereas others shout, “Caw-caw!” Birds come in all different shapes and sizes, but all birds are warm-blooded, egg-laying vertebrates with feathers and wings.

Birds are very different from the animals we will study next time. So far, you’ve learned about fish, amphibians, reptiles, and birds. What do you suppose is next? I’ll give you a hint. They’re hairy and warm-blooded, and you may just find that you know more about them than you think you know! Thank you for being such good listeners. I will see you very soon!

## D Differentiation

### Challenge

Have students identify the five most important vocabulary words in the Read-Aloud with definitions.

### DISCUSSING THE READ-ALoud (10 MIN.)

1. **Literal.** What body part do birds have that enables them to fly?
  - » wings
2. **Literal.** Bird bones have lots of cavities in them, which help make them lighter and able to fly. What are cavities?
  - » hollow places in the bones
3. **Inferential.** What is the job of feathers on birds?
  - » They provide insulation and waterproofing to protect skin and trap heat; they help them fly by being lightweight and by meshing together and parting, which pushes against air and then lets it through.

4. **Evaluative.** Describe the difference between the way a hummingbird flies and an eagle flies.
- » A hummingbird beats its wings very, very fast; an eagle glides and soars.
5. **Evaluative.** What would you say is the cause of these two different types of flight?
- » large, broad wings on the eagle compared to tiny, tapered wings on a hummingbird
- Have students complete Activity Page 10.3 independently.

### Activity Page 10.3



<div> <div>ML/EL</div> <div> <b>MULTILINGUAL/ENGLISH LEARNERS</b>  <b>Speaking and Listening</b>  Listening Actively </div> </div>	
<b>Entering/Emerging</b>	Ask students simple yes or no questions: “Are <i>cavities</i> small bumps on the bones of birds to help them to fly?”
<b>Transitioning/Expanding</b>	On a separate sheet of paper that the students can keep, have them draw and label words and concepts discussed during the Read-Aloud discussion.
<b>Bridging</b>	Encourage students to answer questions using complete sentences and content vocabulary.

### WORD WORK: METABOLISM (5 MIN.)

- In the Read-Aloud you heard that warm-blooded animals “have a very high *metabolism*.”
  - Say the word *metabolism* with me.
  - Metabolism is the process in living animals whereby energy is made from cells in the body as they are produced and as they break down. The higher the activity level of an animal, the higher its metabolism is likely to be.
  - “As our dog grew older, his metabolism slowed down, so he didn’t need to eat as much food as when he was a puppy.”
  - Name an animal and then describe whether you think it would have a higher metabolism or a lower metabolism. Be sure to use the word *metabolism* when you tell about it. Ask two or three students. If necessary, guide and/or rephrase the students’ responses to make complete sentences: “I think a \_\_\_\_\_ would have a \_\_\_\_\_ metabolism because \_\_\_\_\_.”
  - What’s the word we’ve been talking about? What part of speech is the word *metabolism*?
- » *metabolism*; noun

- **Use a Complete the Sentences activity for follow-up.** Directions: “I am going to begin some sentences that describe higher metabolism or lower metabolism. After I’ve spoken the first part, I want you to finish the sentence by saying, ‘has a higher metabolism’ or ‘has a lower metabolism.’”

- A hibernating bear \_\_\_\_\_
  - » has a lower metabolism.
- If an animal’s body is slowing down, it \_\_\_\_\_
  - » has a lower metabolism.
- A hummingbird beating its wings rapidly \_\_\_\_\_
  - » has a higher metabolism.
- A cat that is asleep on the windowsill \_\_\_\_\_
  - » has a lower metabolism.
- A marathon runner in a race \_\_\_\_\_
  - » has a higher metabolism.
- Compared to a warm-blooded animal, a cold-blooded animal \_\_\_\_\_
  - » has a lower metabolism.

## Lesson 10: Wings and Feathers, Part 1

# Writing



Activity Pages  
10.4 and 10.5



## D Differentiation

### Support

Pull students aside to assist with the completion of Activity Page 10.4.

**Primary Focus:** Students will write a short reflection about the most important thing about being a bird. [W.3.8]

### BIRD WEB (10 MIN.)

- Have students take out Activity Page 10.4. Direct them to gather information about birds on the web. Teacher note: Students will use these web notes for the formal paragraph assignment they will write later in the unit.
- In the central oval, students will see the word *birds*. In each surrounding oval, students will write words or phrases that describe the characteristics of animals in that group. They should also include in one of the surrounding ovals examples of animals in this group based on what they heard in the Read-Aloud today.
- Have students complete Activity Page 10.4 independently.

## FIELD JOURNAL (10 MIN.)

- Have students take out Activity Page 10.5 and complete the writing prompt independently.



### MULTILINGUAL/ENGLISH LEARNERS

#### Writing Writing

##### Entering/Emerging

Provide sentence frames that allow for one word answers, e.g., "Today I learned that birds have \_\_\_\_ bones."

##### Transitioning/ Expanding

Provide sentence frames that allow for one word answers, e.g., "Today I learned that birds have \_\_\_\_ bones."

##### Bridging

Encourage students to write in complete sentences and include multiple details.

End Lesson

### Lesson 10: Wings and Feathers, Part 1

# Take-Home Material

- Have students complete Take-Home Page 10.1.

Take-Home Page 10.1



Spelling Analysis Chart		Student Name
		1. dine
		2. dined
		3. dining
		4. smile
		5. smiled
		6. smiling
		7. prepare
		8. prepared
		9. preparing
		10. translate
		11. translated
		12. translating
		13. rake
		14. raked
		15. raking
		16. tire
		17. tired
		18. tiring
		19. file
		20. filed
		21. filing
		22. vote
		23. voted
		24. voting
		25. raise
		26. raised
		27. raising
		28. quote
		29. quoted
		30. quoting
		<b>Challenge Word:</b> give
		<b>Challenge Word:</b> live

## SPELLING ANALYSIS DIRECTIONS

### Unit 2, Lesson 10

- Students are likely to make the error of not dropping the final 'e' prior to adding one of the endings.
- While the above student-error scenario may occur, you should still be aware that misspellings may be due to many other factors. You may find it helpful to record the actual spelling errors that the student makes in the analysis chart. For example: Is the student consistently making errors on specific vowels? Which ones?
  - Is the student consistently making errors on double consonants?
  - Is the student consistently making errors at the end of the words?
  - Is the student consistently making errors on particular beginning consonants?
  - Did the student write words for each feature correctly?
  - Also, examine the dictated sentence for errors in capitalization and punctuation.

## 11

# Wings and Feathers, Part 2

**PRIMARY FOCUS OF LESSON****Language**

Students will use conventional spelling patterns when adding the suffix –es to root words. [L.3.2e]

**Reading**

Students will identify information about birds and explain how specific text features support their learning. [RI.3.5]

Students will demonstrate an understanding of the Tier 2 word *flock*. [L.3.4]

**Writing**

Students will write a short reflection on being a bird. [W.3.8]

**Language**

Students will identify object pronouns and correct pronoun-antecedent agreement in sentences. [L.3.1f]

**FORMATIVE ASSESSMENT****Activity Page 11.2**

**Field Journal** Write a short reflection on being a bird. [W.3.8]

**Activity Page 11.3**

**Object Pronouns** Identify and use object pronouns with correct pronoun-antecedent agreement. [L.3.1f]





**Teacher Presentation Screens:**  
all lessons include slides

## LESSON AT A GLANCE

	Grouping Recommendations	Time	Materials
Language (20 min.)			
Introduce Spelling Words	Whole Group	20 min.	❑ Visual Support 11.1
Reading (40 min.)			
Introducing the Reading	Partner	10 min.	❑ Activity Page 10.4, 11.1 ❑ <i>Rattenborough's Guide to Animals</i>
Partner Reading	Partner	15 min.	
Discussing the Reading	Whole Group	10 min.	
Word Work: <i>Flock</i>	Whole Group	5 min.	
Writing (40 min.)			
Animal Classification foldable	Independent	20 min.	❑ Activity Page 3.2, 11.2
Field Journal	Independent	20 min.	
Language (20 min.)			
Grammar: Object Pronouns and Pronoun Antecedents	Whole Group	20 min.	❑ Activity Page 11.3 ❑ Object Pronouns Chart ❑ Pronouns and Pronouns Antecedents Chart
Take-Home Material			
Caregiver Letter			❑ Take-Home Page 11.1

ADVANCE PREPARATION

Language

- On chart paper, create the following or prepare to display Visual Support 11.1.

➤ Visual Support 11.1

Root Word	-es

Reading

- Predetermine partners for reading lesson.

Language

- Prepare to display Visual Support 11.2. You may create the following on chart paper or the board:

➤ Visual Support 11.2

Object Pronouns

**Object pronouns** take the place of nouns. Object pronouns come after action verbs and words such as *to*, *at*, *for*, *of*, *in*, *from*, and *with*. Singular object pronouns are *me*, *you*, *him*, *her*, and *it*. Plural object pronouns are *us*, *you*, and *them*.

- Display the following poster from Lesson 2.

Pronouns and Pronoun Antecedents

**Pronouns** are words that take the place of nouns.

**Pronoun antecedents** are the words to which the pronouns refer. Pronouns and their antecedents must agree in number and gender.

## Universal Access

- Create and display chart with rules for syllabication:
  - Two consonants between two vowels, divide the syllables between the consonants. Ex: pup|py
  - More than two consonants together in a word, divide the syllables keeping the blends together. Ex: mon|ster
  - One consonant between two vowels in a word, divide the syllables after the first vowel. Ex: plu|ral
  - If that rule doesn't work, divide syllables after the consonant that comes between the vowels. Ex: doz|en
  - Two vowels together that do not make a long vowel sound, divide the syllables between the vowels. Ex: po|em
- Provide additional books, articles, and photos of birds, flocks of birds, and feathers.
- Provide different types of feathers for students to look at and touch.
- Create partners strategically.
- To ensure that all students have the opportunity to contribute during Turn and Talk and Think-Pair-Share exchanges, provide students with a signal such as folding their hands or raising a hand to indicate when both partners have added to the conversation.

## Lesson 11: Wings and Feathers, Part 2

## Language



**Primary Focus:** Students will use conventional spelling patterns when adding the suffix *-es* to root words. [L.3.2e]

**INTRODUCE SPELLING WORDS (20 MIN.)**

- Refer to the previously created chart or display Visual Support 11.1.

**> Visual Support 11.1**

Root Word	-es

**Step 1: Introducing the Root Words**

- Tell students they will be assessed on these words. On the assessment, they will be responsible for spelling these root words, in addition to other words that follow the pattern of the words studied. This week, students will be responsible for spelling the root words plus the forms of these words when the suffix *-es* is added.
- Explain that some of the spelling words this week are verbs and some are nouns when the *-es* is added. Review that a noun is a part of speech that names a person, place or thing. A verb shows action or being.
- As you introduce the spelling words, write them in the table, pronouncing each word as you write it:

Root Word	-es
puppy	
penny	
study	
carry	
butterfly	
lady	
bunny	
dry	
hurry	
marry	

- Write *puppy* in the table. Underline the vowel letters in the word like this:
  - puppy
- “How many consonant letters are between the two vowel letters?” (two)
- Remind students that when there are two consonant letters between two vowel letters, the word is divided between the two consonants.
- Draw a line between the letters ‘p’ and ‘p’ like this:
  - pp | py
- Cover the second syllable, ‘py’, and tell students that if the word is divided in this way, you would read this first syllable as /pup/, since syllables ending with consonants are generally pronounced with the short vowel sound.
- Then, cover the first syllable, ‘pup’, and ask students to read the last syllable, /pee/, reminding them, if necessary, that the letter ‘y’ can stand for the /ee/ sound, especially at the end of words. Prompt students in blending and saying the word, /pup/ /pee/.
- Now, ask students to read each syllable of the word as segments. (Students should say /pup pee/.)
- Now, tell students to “read it fast.” This means students should read the two syllables quickly enough to blend and say the word.

- Tell students that they can now easily see the parts of the word and it is easier to decode and spell.
- Repeat the procedure with other words that are similar: *penny, carry, butter, bunny, hurry, and marry*.
  - pen | ny
  - car | ry
  - but | ter
  - bun | ny
  - hur | ry
  - mar | ry
- After writing *study* in the table, ask students to tell you the vowel sounds in the word. Underline the vowel letters in the word like this:
  - study
- “How many consonant letters are between the two vowel letters?” (one)
- Remind students that when there is one consonant letter between two vowel letters, the word can be divided before or after that single consonant.
- Tell students that you will divide the word into syllables with the division coming after the vowel. Draw a line between the letters ‘u’ and ‘d’ like this:
  - stu | dy
- Cover the second syllable, ‘dy’, and tell students that if the word is divided in this way, you would read this first syllable as /stue/, even though syllables ending with vowels are generally pronounced with the long vowel sound.
- Then, cover the first syllable, ‘stu’, and ask students to read the last syllable, /dee/.
- Prompt students in blending and saying the word, /stue dee/, and point out this does not sound like an English word that you recognize.
- Tell students that you will try dividing the word into syllables with the division coming after the consonant. Draw a line between the letters ‘d’ and ‘y’ like this:
  - stud | y
- Then, cover the second syllable, ‘y’, and ask students to read the first part of the word, /stud/.

- Cover the first syllable, 'stud', and ask students to read the second part of the word, /ee/.
- Now, ask students to read each syllable of the word as segments. (Students should say /stud ee/.)
- Now, tell students to "read it fast." This means that students should read the two syllables quickly enough to blend and say the word.

## Step 2: Adding the Suffix **-es** to the Root Words

- Tell students that you will now complete the remainder of the table by adding the suffix **-es** to each root word.
- Point out the Suffix poster and read it with students.
  - A *suffix* is a syllable placed after a root word. Suffixes change the meaning of the root word.
- Ask what the suffix **-es** signals for verbs. (ongoing action that is still happening)
- Ask what the suffix **-es** signals for nouns. (plural forms of the noun, more than one)
- Tell students that before adding the suffix **-es** to a word ending in 'y', they must change the 'y' to 'i' for each root word. Working with each root word, change the 'y' to 'i' and then add the suffix **-es**.

Root Word	-es
puppy	puppies
penny	pennies
study	studies
carry	carries
butterfly	butterflies
lady	ladies
bunny	bunnies
dry	dries
hurry	hurries
marry	marries
<b>Challenge Word:</b> along <b>Challenge Word:</b> put	

- Introduce the Challenge Words, using correct pronunciation. Use the Challenge Words in sentences as examples for students: “We can collect leaves *along* the way.” “Mom asked me to *put* four plates on the table for dinner.”



## MULTILINGUAL/ENGLISH LEARNERS

### Language

#### Foundational Literacy Skills

<b>Entering/Emerging</b>	Have students clap or tap out the syllables of each word as you read them. Have students repeat the words and clap or tap out the syllables.
<b>Transitioning/Expanding</b>	Provide the spelling words on a separate list. Have students circle and pronounce the consonants and underline and pronounce the vowels. Next, have them draw the line between syllables and say the word.
<b>Bridging</b>	Provide an additional list of words for practice in syllabication.

## Lesson 11: Wings and Feathers, Part 2

# Reading



### Primary Focus

Students will identify information about birds and explain how specific text features support their learning. [RI.3.5]

Students will demonstrate an understanding of the Tier 2 word *flock*. [L.3.4]

### VOCABULARY FOR “BIRDS”

- The following are vocabulary words used in this lesson. Preview the words with the students before the lesson and refer back to them at appropriate times. The words also appear in the glossary in the back of the student reader.

**flock, n.** a group of birds (**flocks**)

**feather, n.** one of many light, soft parts that covers a bird’s skin (**feathers**)

**plumage, n.** birds’ feathers

**nectar, n.** sweet liquid that comes from flowers

**attract, v.** to draw or pull toward a person, place, or thing



Vocabulary Chart for “Birds”		
Type	Tier 3 Domain-Specific Words	Tier 2 General Academic Words
Vocabulary	feather plumage nectar	attract flock
Spanish Cognates	plumaje néctar	atraer
Multiple-Meaning	plumage nectar	
Sayings and Phrases		

### INTRODUCING THE READING (10 MIN.)

- In pairs, have students review their notes from Activity Page 10.4. Students may add additional information learned from their partner.
- Have students turn to Activity Page 11.1. Explain to students that today they will be reading another selection about birds. Today they will focus on the text features in this selection. The focus of Activity Page 11.1 is for students to:
  - Identify the text feature in the selection.
  - Explain the information they learned from the text feature.
- Students will record their responses on Activity Page 11.1.

Activity Pages  
10.4 and 11.1



#### MULTILINGUAL/ENGLISH LEARNERS

#### Reading

#### Reading/Viewing Closely

<b>Entering/Emerging</b>	Ask students to share what they've learned from the reading orally with prompting (e.g., “Name one thing that you learned from the reading.”).
<b>Transitioning/ Expanding</b>	Have students create written lists of what they've learned from the reading on Activity Page 11.1.
<b>Bridging</b>	Encourage students to write in complete sentences.

## **D** Differentiation

### Support

Review the text features students have learned thus far in the unit: table of contents, heading, bold print, photo and caption, chart, map, glossary, and diagram.

### Support

Pull students aside to read the selection with teacher direction.

## **PARTNER READING (15 MIN.)**

- Tell students to turn to the table of contents and locate today's chapter: "Birds." Have students turn to the first page of the chapter.
- Explain that they will be reading the chapter with a partner and completing Activity Page 11.1.

## Chapter

# 12 Birds



Yoo hoo—over here! It's Rattenborough! So far, you have learned about the following groups of animals within the animal **kingdom**: **mammals**, **reptiles**, fish, and **amphibians**. Do you remember all of their different **characteristics**? Do you remember that we said that fish were the largest group of **vertebrates** in the animal **kingdom**? Well, today we are going to talk about the second largest group of **vertebrates**—birds.

Birds belong to a group all their own. Birds, like all living things, are highly adaptive, meaning they can **survive** in many different **habitats**. You can find them in deserts and in the coldest places on Earth. Many love forests. There are only a few birds found way out to sea, many miles from land. But if you are out in a boat only a few miles from land, you may see many sea birds, such as seagulls.



*Different kinds of birds live in many different **habitats**.*

Like **mammals**, birds are **warm-blooded**. Many birds **migrate** when the seasons change. In late fall, they fly in groups called **flocks** from colder places to warmer places. Then, in the spring after winter is over, they **migrate** back to the place where they were in the fall. Birds are the only animal besides some insects and bats that are able to fly like an airplane.

All birds have wings, but not all birds are able to fly. Penguins are probably the best known birds that do not fly. Penguins make up for not flying by being great swimmers. Ostriches, the largest of all birds, can't fly either, but they sure can run very fast! They also lay the world's largest eggs.


Besides wings, all birds have two legs and a mouth without teeth, called a beak. A key **characteristic** of birds is that they all have **feathers**. **Feathers** help these **warm-blooded** animals fly and help them maintain a **constant** body **temperature**. Bird **feathers** come in all kinds of colors and sizes. A bird's **feathers** are also called **plumage**. Peacocks have the fanciest **plumage** of all. They like to show off by fanning their long, colorful **feathers**.



*All birds have wings and **feathers**, but not all birds can fly.*

100

101

-  **Think-Pair-Share:** Have students name other birds that have wings but cannot fly with their partner. Remind students to signal when both partners have contributed to the conversation. As students conclude their conversations, ask them to share one flightless bird their partner shared with them, noting bird names on a whiteboard or chart paper.

» Answers may vary but could include peacock, emu, kiwi, cassowary

Most birds are nesting animals. Many birds make their own nest, often high up in the trees or in thick bushes. They use bits and pieces of nature, such as twigs and parts of plants, to create their nest. Other birds build their nests in tree holes. Some bird nests are made of mud.

Most birds lay eggs in their nests. Some lay a bunch of eggs and some lay only one or two. The nest needs to be in a safe place to protect the little eggs from the weather and other animals that might eat the eggs. Birds sit on their eggs to keep them warm and safe until the eggs hatch. Once they hatch, the baby birds need to eat. Mother and father birds fly out from the nest and find food for their babies. They fly back to the nest and place the food in each baby's beak.

Many birds are **omnivores**. Some birds eat seeds and berries. Some eat insects. Some, like the great blue heron, eat fish. Hawks eat little **mammals**. Other birds, like tiny hummingbirds, eat **nectar** from flowers. All birds drink water.

Birds are also known for their songs. Their songs are used to **attract** mates and to claim a place as their own. Sometimes it seems as if they sing because they want to. Maybe they sing just to remind us how beautiful and interesting the animal **kingdom** is!



*Different kinds of birds eat different types of food.*

102

103

- Have students write one sentence about two characteristics of birds that make them different from fish. The sentence should have at least twelve words.
  - » Answers may vary but could include “Unlike fish, birds are warm-blooded animals that have feathers” or “Unlike fish, birds have wings and can survive in different environments.”

## D Differentiation

### Challenge

Ask students to identify additional text features that could have been used to support the information in today's reading selection.

## DISCUSSING THE READING (10 MIN.)

1. **Literal.** What are some characteristics that all birds share?
    - » beaks, feathers, wings, warm-blooded, lay eggs
  2. **Literal.** Name two flightless birds.
    - » penguins and ostriches
  3. **Literal.** Why do some birds migrate and where do they go?
    - » Some birds migrate when the seasons change to colder weather. They go to warmer places. In spring, when it warms up, these birds migrate back to where they were in the fall of the previous year.
- If time allows, review Activity Page 11.1 as a whole group.

## WORD WORK: FLOCK (5 MIN.)

- In the Read-Aloud, you heard, "In late fall, [birds] fly in groups called flocks from colder places to warmer places."
- Say the word *flock* with me.
- A flock is a group of birds.
- Scientists can observe and study birds' movements in a flock.
- Have you ever seen a flock of birds? When did you see it? How would you describe it? Be sure to use the word *flock* when you tell about it. (Ask two to three students. If necessary, guide and/or rephrase students' responses to make complete sentences: "I saw a flock of \_\_\_\_\_ when . . .")
- What's the word we've been talking about? What part of speech is the word *flock*?
  - » *flock*; noun
- **Use a Synonyms and Antonyms activity for follow-up.** Ask students, "What does *flock* mean? What are some synonyms, or words that have a similar meaning?" Prompt students to provide words like *group*, *crowd*, *many*, etc. Then ask, "What are some words or phrases you know that are antonyms, or opposites, of *flock*?" Prompt students to provide words and phrases like *individual*, *single*, *one*, etc.



## Lesson 11: Wings and Feathers, Part 2

# Writing



**Primary Focus:** Students will write a short reflection on being a bird. [W.3.8]

### ANIMAL CLASSIFICATION FOLDABLE (20 MIN.)

- Have students take out Activity Page 3.2 and complete the remaining information in the “Birds” section. Remind students to choose a bird to draw on page 1. If time permits, tell students that they can add additional information to the “Amphibians,” “Fish,” and “Reptiles” sections.

### FIELD JOURNAL (20 MIN.)

- Have students take out Activity Page 11.2: Field Journal and determine what type of bird they would like to be. Students will complete this Activity Page independently.



#### MULTILINGUAL/ENGLISH LEARNERS

#### Writing Writing

<b>Entering/Emerging</b>	Allow students to draw a picture and label it to respond to the prompt. Have students verbally explain why they would choose to be that bird.
<b>Transitioning/ Expanding</b>	Provide a sentence frame: “If I could be a bird, I would want to be a ____ because ____.”
<b>Bridging</b>	Encourage students to work independently, using descriptive words and complete sentences.

### Activity Page 3.2



### D Differentiation

#### Support

Students may use their Readers to identify information about birds.

### D Differentiation

#### Support

Assist students in brainstorming possible birds for Activity Page 11.2.

#### Challenge

Students may research and record information about birds not presented in the reading.

### Activity Page 11.2



## Lesson 11: Wings and Feathers, Part 2

# Language



**Primary Focus:** Students will identify object pronouns and correct pronoun-antecedent agreement in sentences. [L.3.1f]

### GRAMMAR: OBJECT PRONOUNS AND PRONOUN ANTECEDENTS (20 MIN.)

#### Introducing Object Pronoun and Pronoun Antecedents

- Direct students' attention to the object pronouns poster and the pronouns and pronoun antecedent poster you displayed in advance.

#### ➤ Visual Support 11.2

##### Object Pronouns

**Object pronouns** take the place of nouns. Object pronouns come after action verbs and words such as *to*, *at*, *for*, *of*, *in*, *from*, and *with*. Singular object pronouns are *me*, *you*, *him*, *her*, and *it*. Plural object pronouns are *us*, *you*, and *them*.

##### Pronouns and Pronoun Antecedents

**Pronouns** are words that take the place of nouns.

**Pronoun antecedents** are the words to which the pronouns refer. Pronouns and their antecedents must agree in number and gender.

- Remind students that in a previous lesson, you reviewed subject pronouns and the nouns they refer to (their antecedents). Tell students that today, they will discover that pronouns can serve as objects in sentences, meaning that they follow action verbs or the words listed on the poster.
- Read the following sets of sentences to students and have them find the pronouns in each set.



- Mother called Brad to come in. Mother wanted him to have lunch.
  - » him
- The teacher wanted Wanda to try harder on spelling assessments. The teacher hoped studying in class today would help her.
  - » her
- Ask, “In the first set of sentences, does the pronoun *him* come after an action verb?”
  - » yes, wanted
- Ask, “To whom does the pronoun *him* refer?”
  - » Brad
- Ask, “In the second set of sentences, does the pronoun *her* come after an action verb?”
  - » yes, hoped
- Ask, “To whom does the pronoun *her* refer?”
  - » Wanda
- Point out that in each set of sentences, the pronouns agree with the nouns they refer to (their antecedents) in number and gender; both are singular, the first refers to a boy, and the second refers to a girl.
- Read the following sentences and pronoun choices. Ask students to choose the correct pronoun.
- 1. I hope that doorbell is not our silly neighbors! I am not ready to see \_\_\_\_\_ today. *They* or *them*?
  - » *Them*, because the pronoun comes after the action verb and *them* is an object pronoun.
- 2. Mother left my brother and me at home alone. She trusts \_\_\_\_\_ to behave when she’s gone. *We* or *us*?
  - » *Us*, because the pronoun comes after the action verb and *us* is an object pronoun.
- 3. Carrie’s dad is a kind man. He always treats \_\_\_\_\_ well. *She* or *her*?
  - » *Her*, because the pronoun comes after the action verb and *her* is an object pronoun.

4. Mrs. Sandon taught our class multiplication. Now, we all understand \_\_\_\_\_ and can multiply easily. *It* or *you*?

» *It*, because *it* refers to the object (multiplication) of the sentence.

5. I put a leash on my dog to go for a walk. Now he is walking right beside \_\_\_\_\_. *Me* or *I*?

» *Me*, because the pronoun comes after the action verb and *me* is an object pronoun.

6. Our mother went to visit her parents out of state. She had some presents for \_\_\_\_\_. *Them* or *they*?

» *Them*, because the pronoun comes after the action verb and *them* is an object pronoun.

7. When she arrived, she said, "These presents are for \_\_\_\_\_." *Me* or *you*?

» *You*, because *you* refers to the person spoken to.

8. Connie's brother told her to look the word up in the dictionary. She searched through the pages and finally exclaimed, "I found \_\_\_\_\_!" *Them* or *it*?

» *It*, because both *word* and *it* are singular.

- Have students turn to Activity Page 11.3 and complete it independently.

### Activity Page 11.3



~~~~~ **End Lesson** ~~~~~

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**Lesson 11: Wings and Feathers, Part 2**

# Take-Home Material

- Students will complete Take-Home Page 11.1.

Take-Home Page 11.1



## 12

# Live-Bearing Milk Producers

**PRIMARY FOCUS OF LESSON****Speaking and Listening**

Students will identify clue words and explain how they are used to signal a contrast or comparison of mammals. [RI.3.8, L.3.5b]

Students will demonstrate an understanding of the Tier 2 word *stately*. [L.3.4]

**Reading**

Students will compare two texts on mammals using a graphic organizer. [RI.3.9]

**Writing**

Students will record key information about mammals. [W.3.2]

**FORMATIVE ASSESSMENT****Activity Page 12.1**

**Text Structures** Identify clue words in sentences. [RI.3.8]

**Activity Page 12.3**

**Mammal Web** Identify key information about mammals. [W.3.2]



**Teacher Presentation Screens:**  
all lessons include slides

## LESSON AT A GLANCE

|                                  | Grouping Recommendations                                                                        | Time    | Materials                                                                                                                           |
|----------------------------------|-------------------------------------------------------------------------------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------|
| Speaking and Listening (65 min.) |                                                                                                 |         |                                                                                                                                     |
| Introducing the Read-Aloud       | Whole Group                                                                                     | 10 min. | <input type="checkbox"/> Visual Support 6.1<br><input type="checkbox"/> sticky notes<br><input type="checkbox"/> Activity Page 12.1 |
| Presenting the Read-Aloud        | Whole Group                                                                                     | 30 min. |                                                                                                                                     |
| Discussing the Read-Aloud        | Whole Group                                                                                     | 15 min. |                                                                                                                                     |
| Word Work: <i>Stately</i>        | Whole Group                                                                                     | 5 min.  |                                                                                                                                     |
| Sayings and Phrases              | Whole Group                                                                                     | 5 min.  |                                                                                                                                     |
| Reading (40 min.)                |                                                                                                 |         |                                                                                                                                     |
| Introducing the Reading          | Whole Group                                                                                     | 5 min.  | <input type="checkbox"/> Activity Pages 3.2, 12.2<br><input type="checkbox"/> <i>Rattenborough's Guide to Animals</i>               |
| Small Group Reading              |  Small Group | 15 min. |                                                                                                                                     |
| Discussing the Reading           | Whole Group                                                                                     | 20 min. |                                                                                                                                     |
| Writing (15 min.)                |                                                                                                 |         |                                                                                                                                     |
| Mammal Web                       | Independent                                                                                     | 15 min. | <input type="checkbox"/> Activity Page 12.3                                                                                         |

## ADVANCE PREPARATION

- Display the Text Structures chart from Lesson 6 (Visual Support 6.1).

### > Visual Support 6.1

| <b>Text Structures</b><br><b>How does the author organize information in a text?</b> |                                                               |                                                                |
|--------------------------------------------------------------------------------------|---------------------------------------------------------------|----------------------------------------------------------------|
| <b>Different Types of Text Structures</b>                                            | <b>Defined</b>                                                | <b>Clue Words</b>                                              |
| Time                                                                                 | Explains when an event took place                             | Before<br>Now<br>Later                                         |
| Sequence                                                                             | Explains the order in which events happened                   | First<br>Next<br>Then<br>After<br>Last<br>Finally              |
| Cause and Effect                                                                     | Explains why things happen                                    | Because<br>Then<br>If<br>So<br>As a result<br>When             |
| Comparison                                                                           | Shows differences and similarities between two or more things | However<br>On the other hand<br>Like<br>Unlike<br>Same<br>Both |

- Identify the following digital images online at [learning.amplify.com](https://learning.amplify.com) to project during the Read-Aloud: 12A-1–11.

### Universal Access

- Strategically create groups for the guided and small group reading activity.
- Review with students what comparing and contrasting mean. Provide a simple model of a topic using a T-chart or a Venn diagram. Have students brainstorm additional examples.
- Provide additional books, articles, and photographs of different types of mammals.
- To ensure that all students have the opportunity to contribute during Turn and Talk and Think-Pair-Share exchanges, provide students with a signal such as folding their hands or raising a hand to indicate when both partners have added to the conversation.

## Lesson 12: Live-Bearing Milk Producers

## Speaking and Listening

**Primary Focus**

Students will identify clue words and explain how they are used to signal a contrast or comparison of mammals. [RI.3.8, L.3.5b]

Students will demonstrate an understanding of the Tier 2 word *stately*. [L.3.4]

**VOCABULARY FOR “MAMMALS: LIVE-BEARING MILK PRODUCERS”**

- The following are core vocabulary words used in this lesson. Preview the words with the students before the lesson. Students are not expected to be able to use these words immediately, but with repeated exposure throughout the lessons they will acquire a good understanding of most of the words. Students may also keep a “unit dictionary” notebook along with definitions, sentences, and/or other writing exercises using these vocabulary words.

**diaphragm, n.** a layer of muscle that separates the upper and lower body sections in mammals and creates a space for the lungs to expand when they breathe in oxygen

**mammary glands, n.** milk-producing organs found in female mammals

**marine, adj.** related to the sea

**stately, adj.** grand or impressive in size or manner

**Vocabulary Chart for “Mammals: Live-Bearing Milk Producers”**

| Type                | Tier 3<br>Domain-Specific Words | Tier 2<br>General Academic Words |
|---------------------|---------------------------------|----------------------------------|
| Vocabulary          | mammary glands                  | stately                          |
| Spanish Cognates    | glándulas mamárias              | diafragma<br>marino/a            |
| Multiple-Meaning    |                                 | diaphragm<br>marine              |
| Sayings and Phrases | The show must go on             |                                  |

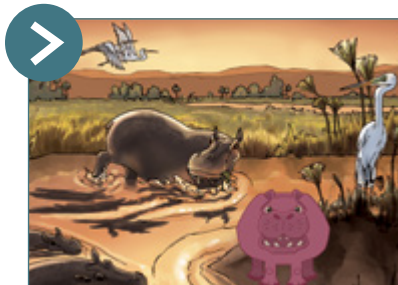
## INTRODUCING THE READ-ALOUD (10 MIN.)

- **Guess the Mammal:** Tell students that the Read-Aloud and reading today are both about mammals. Tell students that, to start the lesson, you are going to see how much they know about mammals. Have students think about moments where they learned about mammals, including books, television shows, or visits to a zoo or an aquarium. Tell them that they are going to use their prior knowledge to recall characteristics of mammals. During Guess the Mammal, list three characteristics of a mammal and have students try to guess the mammal.
  - You can find me resting in rivers, lakes, and swamps to keep cool. I eat mostly grass. I am one of the most dangerous animals in Africa. What am I? (hippo) What other animal can be described as dangerous? (*Answers may vary.*)
  - I am the largest animal to live on Earth. My tongue can weigh as much as an elephant. I have to come to the surface of the water to breathe. What am I? (whale) What is another word you can use to describe a whale? (*Answers may vary.*)
  - I have soft, gray-brown fur with white fur on my belly. You can find me in woodlands and grasslands. I glide through the air with the help of my tail. What am I? (flying squirrel) What other word can you use to describe an animal's fur? (*Answers may vary.*)
- Explain that throughout the lesson, students will learn more about mammals and analyze how the author presents the information.
- Direct students' attention to the Text Structures chart (Visual Support 6.1). Explain that during the Read-Aloud, they will be looking for clue words to signal that the author is going to compare and contrast mammals.

### ➤ Visual Support 6.1

| <b>Text Structures</b><br><b>How does the author organize information in a text?</b> |                                                               |                                                                |
|--------------------------------------------------------------------------------------|---------------------------------------------------------------|----------------------------------------------------------------|
| <b>Different Types of Text Structures</b>                                            | <b>Defined</b>                                                | <b>Clue Words</b>                                              |
| Comparison                                                                           | Shows differences and similarities between two or more things | However<br>On the other hand<br>Like<br>Unlike<br>Same<br>Both |





**Show Image 12A-1**

**African habitat with Hilda Hippo**

Well, students, it's me, Rattenborough, back again! Today we're going to talk about a group of animals that you already know a little something about—based on your own personal experience. Hilda Hippo is one of these, and I am one of these. Remember our

mnemonic? **All My Best Friends Represent Vertebrates!** Yes, the letter 'M' in the word *My* stands for mammals! And guess what? You are mammals, too!

Who can name some characteristics of mammals? In what ways are you like Hilda and me? What keen observations you make! Yes, we are warm-blooded vertebrates with hair. I think *you* could help *me* teach this lesson.

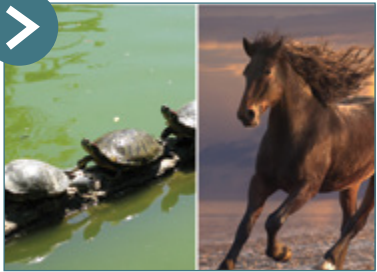
Let's begin with the name of this group: mammals. It comes from the Latin word *mammalia*. The word *mammalia* refers to a group of animals who possess **mammary glands**. Mammary glands are milk-producing organs belonging to female mammals. When female mammals give birth, they secrete a nourishing substance—milk—to feed their young. That is one of the primary characteristics of mammals: We feed our young milk. That's right—rats drink mother's milk, hippopotami drink mother's milk, and so do humans! The mother's milk has all the nourishment that a baby needs.

Mammals have backbones! Reach around and check out your back once more to make sure your backbone is still there! Of course it is. Without backbones, we wouldn't be able to sit up straight or hold our heads in the air. And our spinal cords that house the nerves that send messages to our brains would be unprotected! So, because we all have backbones, scientists call us . . . what? Yes, quite right—we are all vertebrates.

**D** Differentiation

Support

Separate the words on the Text Structures chart that signal a comparison and the words that signal a contrast in the text.



**Show Image 12A-2**  
**Turtles and horses**

Reptiles, amphibians, and fish all have a relatively low metabolism and, as you have learned, are classified as cold-blooded animals. Like birds, mammals, such as this horse, have a high metabolism, burning lots of energy to help them maintain a constant

internal body temperature. What is the term that taxonomists use to classify mammals in terms of body temperature? Yes, we are all warm-blooded.

- Text Structure: Write the following sentence on the board:
  - Like birds, mammals, such as this horse, have a high metabolism.
- Circle the word *like* in the sentence and explain how this word is used to compare birds to mammals.

| Compare                                     | Contrast                               |
|---------------------------------------------|----------------------------------------|
| Same (similar, the same as)<br>Both<br>Like | However<br>On the other hand<br>Unlike |



**Show Image 12A-3**  
**Hippopotamus snout through binoculars**

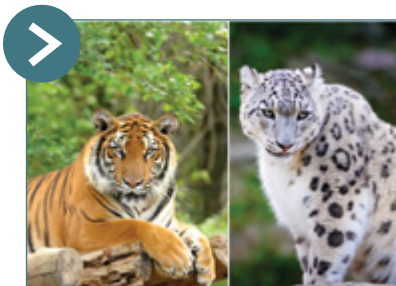
One of you was right when you said that mammals are covered in hair or fur. Some of us are hairier than others. Hilda Hippo and other hippopotamuses don't look so hairy, do they? But you might remember that they do have a little bit of hair around their mouths and on the tips of their ears and tails. Let's take a look at a few of our furrier friends.



#### Show Image 12A-4 Giraffe and yak

Here's one of my favorite mammals. I love his **stately** long neck and envy his ability to reach high into trees to eat leaves and to see into the distance. I'll bet that if I were as tall as a giraffe, I could spot my enemies more quickly.

Does anyone know what this other animal is? It's a yak. Yaks need their shaggy hair and dense woolly undercoats to help keep them warm on the cold Tibetan Plateau where they live.



#### Show Image 12A-5 Bengal tiger and snow leopard

Tigers and leopards have fur. Look at this Bengal tiger and this beautiful snow leopard of Central Asia. Both of these cat species are on the list of endangered species, a list of animals whose numbers have dwindled due to the loss of habitats and over-hunting.

- Text Structure: Write the following sentence on the board:
  - Both of these cat species are on the list of endangered species.
- Circle the word *both* in the sentence and explain how this word is used to compare two species of cats.



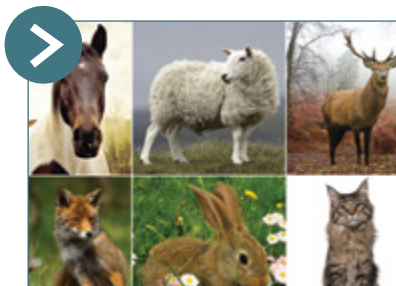
### Show Image 12A-6

#### Marmot and flying squirrel

Does anyone know what this is? It's a marmot, a member of the squirrel family. And here's another type of squirrel—a flying squirrel! These squirrels don't really fly, but they have two folds of skin on the sides

of their bodies that let them take great leaps, gliding through the air with the help of their tails for steering. The only mammals that can truly fly are bats. They have skin between their long fingers that stretches out, turning their arms into wings when they open. Bats may seem like birds; however, they are not because they have no feathers—they actually have a fine fur—and they give birth to live young.

- Text Structure: Write the following sentence on the board:
  - Bats may seem like birds; however, they are not because they have no feathers.
- Circle the word *however* in the sentence and explain how this word is used to contrast bats and birds.



### Show Image 12A-7

#### Various mammals

Most, but not all, mammals are **terrestrial**, meaning that they live on land. Can anyone think of an aquatic mammal, a mammal that lives in water? I'll give you a hint. One of them is my friend—Hilda!



### Show Image 12A-8 Hippopotamus in water

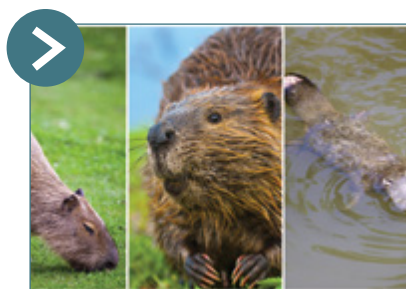
Ah, yes. Hippopotami love the water. But they are actually semiaquatic, meaning that they live partly in water and partly on land. Usually, Hilda and other hippopotami stand in the water during the day to keep cool. Then they graze on land when evening falls.



### Show Image 12A-9 Aquatic and semiaquatic mammals

Whales are **marine** mammals, meaning that they live in the ocean. The blue whale is not only the largest mammal, but it is also the largest animal on Earth. Blue whales can grow up to one hundred feet long; that's a little longer than a basketball court! Its tongue alone weighs more than three tons! Imagine that! Manatees and smaller whales such as dolphins and porpoises are also fully aquatic, marine mammals. They share saltwater seas with walruses and seals, semiaquatic animals that like to wander on shore just like Hilda Hippo does.

Marine mammals are believed by many scientists to have evolved from land mammals, and they share many of the same characteristics. They are warm-blooded, they have backbones and fur or hair—even though sometimes it is the tiniest amount of hair—and they breathe oxygen from the air. Remember when we talked about how fish use gills to breathe in oxygen from the water? Remember how in amphibians those gills develop into lungs, requiring amphibians to come to the surface of the water to breathe air? Well, mammals also have lungs. All mammals have lungs and an underlying **diaphragm** that assists breathing. When the diaphragm tightens, it creates more space in the lung cavity, and air is drawn into the lungs. All mammals, including whales and porpoises, dolphins and manatees, must come to the surface of the water now and then to breathe.



### Show Image 12A-10

#### Capybara, beaver, and duck-billed platypus

Some mammals also live in fresh water. I want to introduce you to another semiaquatic relative of mine. This is a capybara [kappy-barrah]. He, like me, is classified as a rodent and likes to swim.

- Text Structure: Write the following sentence on the board and pass out one sticky note to each student.
  - He, like me, is classified as a rodent and likes to swim.
- On the sticky note, have students list the text structure key word and write *compare* or *contrast* to signal what is happening in the sentence. (*like, compare*)
- With a partner, have students share their sticky note response.
- Have students place their sticky notes on the board under the sentence.

## D Differentiation

### Challenge

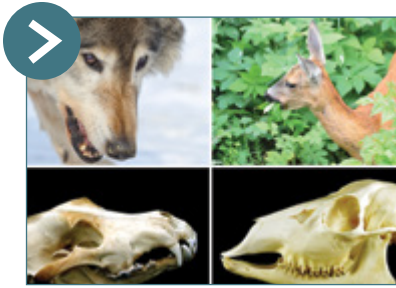
Have students identify sentences that compare and contrast without clue words.



### Check for Understanding

Quickly review the sticky notes on the board. If students did not recognize the *like* and *compare*, review with students the clue word in the sentence.

The duck-billed platypus is unusual. It is one of only a few mammals that lay eggs. Spiny anteaters, also natives of Australia and nearby islands, are the only other egg-laying mammals. All other mammals are live-bearing, which means they give birth to live young. The young are nourished inside the mother's body, and most are fully developed when they are born, looking like smaller versions of their parents. A few, like kangaroos and opossums, are part of a group of mammals called marsupials. Marsupial babies are very underdeveloped when they are born, but they move directly to the mother's protective pouch to be nourished by her milk. All mammals, whether hatched from eggs or born live, feed on the mother's milk in their **infancy**.



### Show Image 12A-11

#### Wolf and deer with respective skeletons

Remember learning that birds' beaks may provide clues to their diets? The same is true of mammals' mouths. Wide mouths and sharp, pointed teeth suggest that these mammals may be carnivores. Wolves, whales, and bats are all carnivores. Herbivores are

more likely to have long jaws, long tongues, and flat teeth. Deer, sheep, monkeys, and pandas are all herbivores. Omnivorous mammals include bears, opossums, chipmunks, and mice. Many humans are omnivores, but humans *think* about the choices they make about what to eat. Omnivores generally have sharper front teeth and flat teeth for chewing in the back of their mouths. Think about your mouth. Do you think humans were designed to eat meat, only plants, or both meat and plants? Why?

Next time, we'll look at the last of my slides. Be ready for a review of the five vertebrate groups of the animal kingdom—amphibians, mammals, birds, fish, and reptiles. I'm sure you are becoming quite skilled at classifying animals, and we'll get to have some fun with doing just that.

Can't wait—see you soon!

### DISCUSSING THE READ-ALoud (15 MIN.)

1. **Inferential.** How would you describe the body covering of a mammal?
    - » It is covered with hair or fur.
  2. **Literal.** How does the fur on a yak and on other animals help them?
    - » It keeps them warm.
  3. **Evaluative.** Compare and contrast mammals and birds.
    - » Both are warm-blooded vertebrates; however, mammals have fur or hair, whereas birds have feathers; mammals give birth to live babies, whereas baby birds hatch from eggs; and mammals have mammary glands, which birds do not.
- Have students independently complete Activity Page 12.1.

#### Activity Page 12.1







**MULTILINGUAL/ENGLISH LEARNERS**  
**Speaking and Listening**  
Understanding Text Structures

|                                |                                                                                                                                                                                                                                                                               |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Entering/Emerging</b>       | Assist in completing Activity Page 12.1 by reading the sentences aloud as the students follow along on the page. Ask them to point to the clue word in the sentence first and then circle it. Ask yes and no questions; for example, "Is this sentence comparing two things?" |
| <b>Transitioning/Expanding</b> | Allow students to work with a partner to complete Activity Page 12.1.                                                                                                                                                                                                         |
| <b>Bridging</b>                | Provide support as needed.                                                                                                                                                                                                                                                    |



**Check for Understanding**

If students have difficulty identifying the text structure clue words, review the Text Structures chart in small groups and circle the clue words in each sentence.

**WORD WORK: *STATELY* (5 MIN.)**

- In the Read-Aloud, you heard Rattenborough describing a giraffe and saying, "I love his stately long neck . . ."
- When something is stately, it is grand or impressive in size or manner.
- The stately marching band at my brother's high school football game made the game feel very important.
- Have you ever witnessed anything that was stately? What was it and where were you? Be sure to use the word *stately* when you tell about it. Ask two or three students. If necessary, guide and/or rephrase the students' responses to be complete sentences: "When my mom dressed up to go out to a fancy dinner, her stately appearance \_\_\_\_\_."
- What's the word we've been talking about? What part of speech is the word *stately*?
  - » *stately; adjective*



- **Use a Complete Sentences activity for follow-up.** Ask students, “What does *stately* mean?”
- Now have a few volunteers form complete sentences that include the word *stately*, along with identifying an animal in one of the five vertebrate groups that they think is stately. (“I think a peacock is stately because \_\_\_\_.”) As time allows, you may wish to allow students to create a list of synonyms for *stately* and/or draw a picture of a stately animal and share it with the class.

### SAYINGS AND PHRASES (5 MIN.)

- Proverbs are short, traditional sayings that have been passed along orally from generation to generation. These sayings usually express general truths based on experiences and observations of everyday life. Although some proverbs do have literal meanings—that is, they mean exactly what they say—many proverbs have a richer meaning beyond the literal level. It is important to help your students understand the difference between the literal meanings of the words and their implied or figurative meanings.
- Ask students if they have ever heard anyone say, “The show must go on.” Have students repeat the saying. Ask students to guess what this phrase means. Explain that, literally, this saying means that it is necessary for a show of some sort to continue. The implied or figurative meaning, however, is that any project, event, or plan must be completed no matter what happens.
- Explain that this saying, which was in use in the United States starting in about 1867, likely originated with the popularity of the circus. Despite tragic accidents, poor weather conditions, and other setbacks that might have meant cancellation, circus shows usually took place as scheduled.
- Ask students what Rattenborough began to think about during his slide presentation today that caused him to get lost in a memory. Tell students that it seemed for a moment that Rattenborough might go on and on about his childhood, but he stopped himself. Ask students, “What did he say to get back to the lesson?” (“The show must go on!”) He was implying that he’d better get on with his plan—the slide show—because it had to be completed today. Find other opportunities to use this saying in the classroom throughout the year.

## Lesson 12: Live-Bearing Milk Producers

# Reading



**Primary Focus:** Students will compare two texts on mammals using a graphic organizer. [RI.3.9]

### VOCABULARY FOR “MAMMALS”

- The following are vocabulary words used in this lesson. Preview the words with the students before the lesson and refer back to them at appropriate times. The words also appear in the glossary in the back of *Rattenborough’s Guide to Animals*.

**communicate, v.** to share information with others through language, writing, or gestures

**language, n.** words used to communicate

**sonar, n.** a way to find things underwater using sound waves

**predator, n.** an animal that hunts other animals for food (**predators**)

| Vocabulary Chart for “Mammals” |                                 |                                  |
|--------------------------------|---------------------------------|----------------------------------|
| Type                           | Tier 3<br>Domain-Specific Words | Tier 2<br>General Academic Words |
| Vocabulary                     | sonar<br>predator               | communicate<br>language          |
| Multiple-Meaning               |                                 |                                  |
|                                |                                 |                                  |
| Sayings and Phrases            |                                 |                                  |

## INTRODUCING THE READING (5 MIN.)

- Explain that they will read another text about mammals.
- Have students turn to Activity Page 12.2. As a whole group, complete the first part of the handout: Important Points from the Read-Aloud.

**Note:** Reread Read-Aloud text if necessary.

- Tell students that, as they read in small groups, they will record important information in the text on the second part of Activity Page 12.2. Activity Page 12.2: “Mammal.”

## Activity Page 12.2



## SMALL GROUP READING (15 MIN.)

### Small Group

**Note:** The Guided Reading Supports that follow are intended for use while you work with students in Small Group 1.

- Small Group 1: Read the chapter along with students. Follow the Guided Reading Supports below as you guide students through the chapter.
- Small Group 2: Ask these students to read the chapter in small groups and complete Activity Page 12.2.



Aha! Now we get to an animal group that I really know a lot about! I, Rattenborough, am part of this group of animals myself! I'm talking about **mammals**. Do you remember the **characteristics** that scientists use to identify **mammals**? Hair is one major **characteristic**. Other characteristics include some mammals having live births, laying eggs, and giving milk. They breathe **oxygen** from the air using their lungs. **Mammals** are also **warm-blooded**, and they are **vertebrates**.


Most scientists agree that **mammals** are the smartest creatures in the animal **kingdom**. All animals **communicate** in some way. Dogs **communicate** by barking and wagging their tails. Cows moo. Some cats meow, others roar. One group of **mammals**, primates, uses complex **communication**. Humans use **language** to talk. They also **communicate** with their faces and hands. Some apes and chimpanzees have even been taught to use sign **language** to **communicate**.



*Mammals communicate in different ways.*

## Pages 104–105

- Read the title of the chapter together as a group: “Mammals.”
- Ask students to read **pages 104–105** to themselves to find the answer to the question: “What makes mammals the smartest creatures in the animal kingdom?”
- When students have finished reading, restate the question and ask students to answer.
  - » All mammals communicate in some way.
- Ask students to provide examples from **page 104** of how some mammals communicate.
  - » Dogs bark and wag their tails, cows moo, some cats meow or roar, people talk and use their faces and hands, and some apes and chimpanzees use sign language.

-  **Think-Pair-Share:** Have students compare and contrast kinds of communication between humans and apes/chimpanzees. Remind students to signal when both partners have contributed to the conversation.
  - » Humans and some apes/chimpanzees can communicate using sign language, but only humans use words to communicate with others.
- Ask students to look at the images on **page 105** and read the caption.
- Have students record key information from the text on Activity Page 12.2.

There are two other **mammals** that also seem to use an advanced form of **communication**. In fact, you may not even realize that these animals are **mammals** because they live in the ocean. Dolphins and whales are classified as **aquatic mammals**. Dolphins and whales, like other **mammals**, do not have **gills** like fish, so they cannot breathe underwater. Instead, they use blowholes at the top of their heads to blow out water and suck in air. Dolphins and whales rise to the surface of the water and poke their heads into the air to breathe.

Whales and dolphins **communicate** by sending out sound waves through the water. These waves, called **sonar**, help them find their way through the ocean. The sound waves bounce off objects and echo back to the whale or dolphin. The whale or dolphin can tell the size, shape, and speed of objects, and the distance away from them based on the time it takes the echo sound to travel back to them. They also use their sounds to “talk” to each other!



*You might think dolphins would be classified as fish, but they are classified as **mammals**.*

## Pages 106–107

- Ask students to read **pages 106–107** to themselves to discover how dolphins and whales communicate.
- When students have finished reading, restate the question and ask students to answer.
  - » Dolphins and whales communicate by sending out sound waves called sonar through the water. The sound waves bounce off objects and echo back to the whale or dolphin. The whale or dolphin can tell the size, shape, speed, and distance of objects based on the time it takes the echo of the sound to travel back to it.
- Ask students, “What kind of mammals are whales and dolphins? Which sentence(s) on **page 106** answers the question?”
  - » Whales and dolphins are aquatic mammals, which means they live in water.

Dolphins and whales also give birth to live young. No eggs needed! They even feed milk to their young. If you study them closely, you will learn that dolphins and whales have hair, not **scales**. They also have very thick skin. Their skin protects them from the cold and animals that are their **predators**.

You might also be surprised to learn that bats are also **mammals**. Bats fly like birds, but they do not have the other **characteristics** that birds have. Bats have fur, not **feathers**. Their arms have wing-like flaps of skin, but they are not like bird wings. Bats also give birth to live young and they produce milk. So, scientists **classify** bats as **mammals**.

108



*Bats are also **mammals**.*

109

## Pages 108–109

- Ask students to read **pages 108–109** to find out what is special about the skin that dolphins and whales have.
- When students have finished reading, restate the question and ask students to answer.
  - » Their skin protects them from the cold and animals that are their predators.
- Ask students, “How are bats different from birds? Which sentences on **page 108** answer the question?”
  - » Bats have fur, not feathers; they have wing-like flaps of skin, not wings; they give birth to live young; and they produce milk.
- Have students record key information from the text on Activity Page 12.2.



Here's an interesting fact: not all **mammals** give birth to live young. The duck-billed platypus and spiny anteater both lay eggs like birds and some **reptiles**, but have all the other **characteristics** of **mammals**. Good luck finding one. They are very rare!

**Mammals** have their fair share of odd members, like the duck-billed platypus. But the basic **characteristics**—hair, backbone, milk, **warm-blooded**—are always present in **mammals** no matter what.



*A duck-billed platypus*

### Pages 110–111

- Ask students to read **pages 110–111** to discover what is unique about the duck-billed platypus and the spiny anteater, which are both mammals.
- After students have finished reading, restate the question and ask students to answer and provide details from the chapter.
  - » They both lay eggs instead of giving birth to live young.
- Have students record key information from the text on Activity Page 12.2.



## DISCUSSING THE READING (20 MIN.)

- **Write-Pair-Share:** Distribute paper and display the following sentence:
  - Two types of semiaquatic mammals are hippos and capybaras.
- Have students write an appositive for the underlined noun. After writing, tell students to share their writing with a partner. Remind students to signal when both partners have contributed to the conversation.
  - » Two types of semiaquatic mammals, mammals that live both on land and in water, are hippos and capybaras.
- As a whole group, have students share information that they recorded on Activity Page 12.2 from the reading. Assist students in finding connections between the two texts.
- After sharing information on Activity Page 12.2, have students take out Activity Page 3.2 and complete the remaining information in the “Mammals” section. Remind students to choose a mammal to draw on page 1. If time permits, tell students that they can add additional information to the “Amphibians,” “Fish,” “Reptiles,” and “Birds” sections.

### Activity Page 3.2



ML/EL

#### MULTILINGUAL/ENGLISH LEARNERS

##### Reading

##### Reading/Viewing Closely

|                                |                                                                                                                                                                                  |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Entering/Emerging</b>       | Ask students yes and no questions; for example, “In the reading ‘Mammals,’ did we learn that animals communicated?”                                                              |
| <b>Transitioning/Expanding</b> | Reread parts of the text aloud and ask students to orally recall some key details. Model writing the details in the correct part of the graphic organizer on Activity Page 12.2. |
| <b>Bridging</b>                | Encourage students to share their answers during the whole class discussion after completing Activity Page 12.2.                                                                 |



### Check for Understanding

If students are unable to identify connections between the two texts, then list a key statement and three supporting details from both texts to compare.

## Lesson 12: Live-Bearing Milk Producers

# Writing



**Primary Focus:** Students will record key information about mammals. [W.3.2]

### MAMMAL WEB (15 MIN.)

#### Activity Page 12.3



- Have students take out Activity Page 12.3 and *Rattenborough's Guide to Animals*. Students will gather information to reinforce what they have learned and as notes for the formal paragraph assignment they will write later in the unit. In the center, students will find the word *mammals*. In the surrounding ovals, students will write words and/or phrases that describe the characteristics of animals in that group. They should also include in one of the surrounding ovals examples of animals in this group based on what they heard in the Read-Aloud today and their reading.

### D Differentiation

#### Support

Provide students with key topics to list on Activity Page 12.3, such as cold-blooded or warm-blooded, vertebrate or invertebrate, etc.



#### MULTILINGUAL/ENGLISH LEARNERS

##### Writing

##### Entering/Emerging

Ask students questions with one-word answers and guide them in writing their answers on the graphic organizer; for example, "Mammals have what covering their bodies?"

##### Transitioning/Expanding

Allow students to work with partners to complete the graphic organizer.

##### Bridging

Encourage students to work independently and provide assistance if needed.

End Lesson



## 13

# Jane Goodall

**PRIMARY FOCUS OF LESSON****Speaking and Listening**

Students will identify information presented in a media clip about Jane Goodall. [SL.3.2]

**Reading**

Students will determine the main idea and supporting details about Jane Goodall from the media clip and reading. [SL.3.2]

Students will demonstrate an understanding of the Tier 2 word *behavior*. [L.3.4]

**Writing**

Students will plan an informative paragraph about a vertebrate's characteristics and classifications. [W.3.2]

**FORMATIVE ASSESSMENT****Activity Page 13.2****Jane Goodall: Main Idea and Supporting Details**

Identify the main idea and supporting details presented in a reading and media clip. [SL.3.2]

**Activity Page 13.3**

**Animal Report** Plan a writing piece about an animal. [W.3.2]



**Teacher Presentation Screens:**  
all lessons include slides

## LESSON AT A GLANCE

|                                  | Grouping Recommendations | Time    | Materials                                                                                         |
|----------------------------------|--------------------------|---------|---------------------------------------------------------------------------------------------------|
| Speaking and Listening (50 min.) |                          |         |                                                                                                   |
| Introducing Jane Goodall         | Whole Group              | 40 min. | ❑ Activity Page 13.1                                                                              |
| Discussing the Video Clip        | Whole Group              | 10 min. |                                                                                                   |
| Reading (40 min.)                |                          |         |                                                                                                   |
| Introducing the Reading          | Whole Group              | 5 min.  | ❑ Activity Pages 13.1, 13.2<br>❑ <i>Rattenborough's Guide to Animals</i><br>❑ Visual Support 13.1 |
| Whole Group Reading              | Whole Group              | 15 min. |                                                                                                   |
| Discussing the Reading           | Independent              | 15 min. |                                                                                                   |
| Word Work: <i>Behavior</i>       | Whole Group              | 5 min.  |                                                                                                   |
| Writing (30 min.)                |                          |         |                                                                                                   |
| An Informational Paragraph       | Whole Group              | 30 min. | ❑ Activity Page 13.3                                                                              |
| Take-Home Material               |                          |         |                                                                                                   |
| Caregiver Letter                 |                          |         | ❑ Take-Home Page 13.1                                                                             |

## ADVANCE PREPARATION

### Speaking and Listening

- Locate and prepare to show an online video clip about Jane Goodall and her work with chimpanzees.

### Reading

- On chart paper, write the following sentence or prepare to display Visual Support 13.1.

#### ➤ Visual Support 13.1

##### Jane Goodall Quote

“One thing I had learned from watching chimpanzees with their infants is that having a child should be fun.”

### Universal Access

- Provide appropriate books, articles, etc., about people who are animal or environmental activists.
- Review the purpose of informational text with students. Remind them that the main purpose is to give information about a topic. It has a main idea that is backed up with facts and details. Remind them that there are different structures: compare and contrast, descriptive, sequence, cause and effect, or problem and solution. Remind students that they discussed text features in previous lessons.
- To ensure that all students have the opportunity to contribute during Turn and Talk and Think-Pair-Share exchanges, provide students with a signal such as folding their hands or raising a hand to indicate when both partners have added to the conversation.

## Lesson 13: Jane Goodall

## Speaking and Listening



**Primary Focus:** Students will identify information presented in a media clip about Jane Goodall. [SL.3.2]

## INTRODUCING JANE GOODALL (40 MIN.)

- Explain to students that many times people say important or inspirational things and their thoughts are recorded. For example, Dr. Seuss said, “Don’t cry because it’s over, smile because it happened,” and Maya Angelou said, “I’ve learned that people will forget what you said, people will forget what you did, but people will never forget how you made them feel.”
- Post or project the Jane Goodall quote. With a partner, have students read the quote and try to make predictions about Jane Goodall’s life.
- Explain that during our lesson today, we will watch a video clip about Jane Goodall. The video will be played twice. The first time the video is played, students should watch with a focus on identifying the key information. The second time the video is played, students will record their thoughts on Activity Page 13.1.
- Project and play the video clip of Jane Goodall that you prepared in advance.
- Play the video clip once for students to watch. Play the video clip a second time for students to record their ideas on Activity Page 13.1.

## Activity Page 13.1



ML/EL

## MULTILINGUAL/ENGLISH LEARNERS

## Speaking and Listening

## Reading/Viewing Closely

## Entering/Emerging

Ask simple one-word questions, such as, “Did Jane Goodall go to Africa to study chimpanzees?”

Transitioning/  
Expanding

Assist students in completing Activity Page 13.1 by listing main ideas from on the board and guiding them in listing them in the graphic organizer.

## Bridging

Allow students to work with a partner to find and list the main ideas or encourage them to work independently.

D

Differentiation

Support

If students have difficulty identifying the main idea of the video clip, then give them three potential main ideas and have them determine which one is correct.

Challenge

Have students research Jane Goodall further by using books, articles, and websites.

DISCUSSING THE VIDEO CLIP (10 MIN.)

- Whole group share: Have students share their responses on Activity Page 13.1. Assist students in identifying the main idea and supporting details. Write their responses on the board.

Lesson 13: Jane Goodall

Reading



Primary Focus

Students will determine the main idea and supporting details about Jane Goodall from the media clip and reading. [SL.3.2]

Students will demonstrate an understanding of the Tier 2 word *behavior*. [L.3.4]

VOCABULARY FOR READING “JANE GOODALL”


- The following are vocabulary words used in this lesson. Preview the words with the students before the lesson and refer back to them at appropriate times. The words also appear in the glossary in the back of the student reader.

- primatologist, n.** a scientist who studies primates
- primate, n.** a mammal such as a monkey, ape, or human
- behavior, n.** how a person or animal acts
- intelligent, adj.** smart
- activist, n.** a person who strongly believes in changing something and works hard to try to make change happen

| Vocabulary Chart for “Jane Goodall” |                                 |                                     |
|-------------------------------------|---------------------------------|-------------------------------------|
| Type                                | Tier 3<br>Domain-Specific Words | Tier 2<br>General Academic Words    |
| Vocabulary                          | primatologist<br>primate        | activist<br>behavior<br>intelligent |
| Spanish Cognates                    | primatólogo/a<br>primate        | activista<br>inteligente            |
| Multiple-Meaning                    |                                 |                                     |
|                                     |                                 |                                     |
| Sayings and Phrases                 |                                 |                                     |



## INTRODUCING THE READING (5 MIN.)

- Tell students that today, they will read a biography entitled “Jane Goodall.”
- Remind students that a biography is about a person’s life.
- Tell students that during the first read through, they should listen to the text and record key details about Jane Goodall on Activity Page 13.1.
- Explain that Goodall is one of many environmental and animal rights activists. Use this opportunity to highlight other activists of your choice. Some examples of youth environmental activists include Haile Thomas, Thomas Ponce, Greta Thunberg, and Yuri Suzuki.
-  **Think-Pair-Share:** Have students predict some responsibilities that Jane Goodall has as an environmental and animal rights activist. Remind students to signal when both partners have contributed to the conversation.
  - » protecting animals, saving animal habitats, speaking about dangers to different animals species and their habitats

# 14 Jane Goodall



Jane Goodall is a very famous **primatologist**. She is a scientist who studies a group of **mammals** called **primates**. **Primates** are a group of **mammals** that includes humans, monkeys, gorillas, and chimpanzees. Jane Goodall has spent her whole life studying chimpanzees. She has focused on studying animal **behavior** in chimpanzees. Her discoveries have made her one of the best known scientists in the world.

Goodall was born in 1934 in London, England. When she was a little girl, her father gave her a toy chimpanzee. It looked so real that people who visited her house were afraid of it, but she loved it!

When Goodall was 23, she went to Africa. She began studying chimpanzees with a well-known scientist named Louis Leakey. After a year of working in Africa, Goodall went back to England and studied at the University of Cambridge. Can you guess what her favorite subject was? Chimpanzees!

112

*Jane Goodall*

113

## WHOLE GROUP READING (15 MIN.)

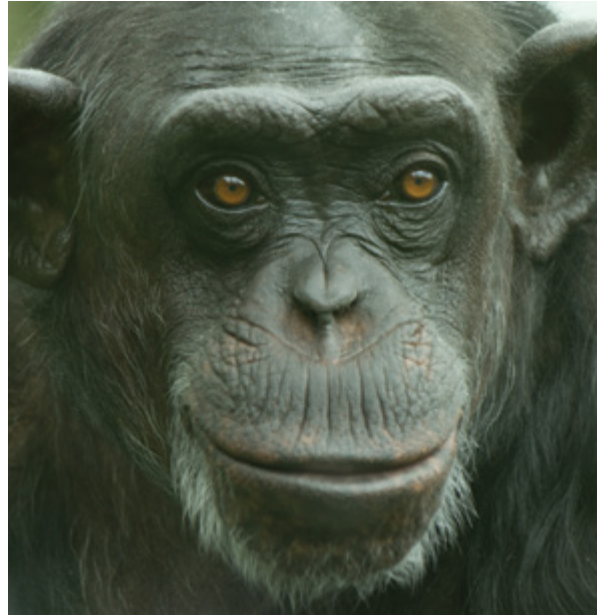
### Pages 112–113

- Read the title of the chapter together as a group: “Jane Goodall.”
- Ask students to read **pages 112–113** to themselves to find the answer to the question: “What does it mean to study chimpanzee behavior?”
- When students have finished reading, restate the question and ask students to answer.
  - » Studying chimpanzee behavior means to study how they act.

After finishing **school**, Goodall returned to Africa and spent the next 45 years studying chimpanzees in the wild. Her discoveries during those years completely changed the way people think about **primates**.

Before Goodall's work, people thought chimpanzees were **herbivores**. She discovered that they eat meat, too. More importantly, Goodall discovered that chimps were quite **intelligent**. She **observed** them making and using tools! Before that, people thought humans were the only animals that made and used tools.

When you hear the word *tool*, you may think of a hammer, saw, or shovel. Chimps don't use those kinds of tools. A tool is something used to help make a job easier. Tools can be very simple. A rock becomes a tool if you pick it up and use it to crack open a walnut.



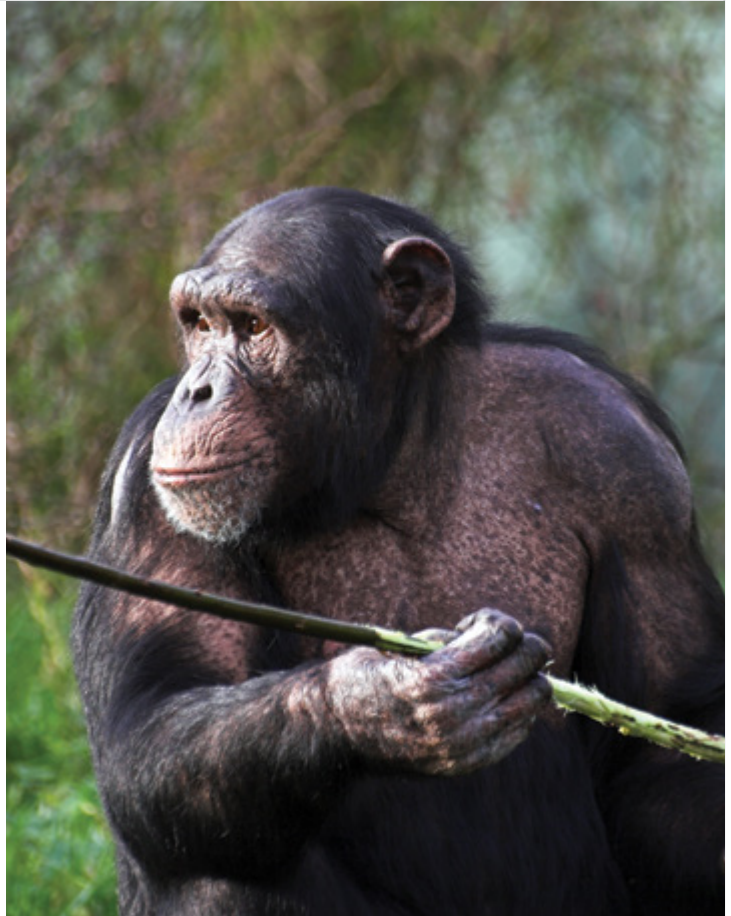
*Goodall studies chimpanzees, a type of **mammal** belonging to the **primate** group.*

## Pages 114–115

- Ask students to read **pages 114–115** to themselves to find the answer to the question: “What unusual discoveries about chimps did Jane Goodall make during her years in Africa?”
- When students have finished reading, restate the question and ask students to answer.
  - » People thought chimpanzees were herbivores, but Jane Goodall found out that they also eat meat. They are also quite intelligent. They make and use tools.
- Ask, “What is an example of a tool that chimps use?”
  - » a rock to crack open a walnut

Goodall **observed** chimps using blades of grass and sticks as tools. Chimps like to eat termites, a type of insect that is like an ant. Termites live in holes underground. To catch these tasty insects, Goodall **observed** a chimp sticking a blade of grass into a termite hole. The termites crawled onto the grass. Then, the chimp took the grass out of the hole and ate all the termites. Before Goodall wrote about this **behavior**, people did not realize how clever chimps and other **primates** are.

Goodall gave names to all the chimps in the group she was studying. She got to know them pretty well. Over time, she learned that chimps were smart animals. She learned that chimps express many of the same feelings as people. They can feel happy, sad, and mad. Chimps can also be mean. Goodall saw them attack and eat small monkeys, not out of hunger, but because they didn't want them around.



*A chimpanzee uses a plant stem as a tool.*

## Pages 116–117

- **Write-Pair-Share:** Display the following sentence starter:
  - Chimps use tools...
- Have students write three sentences using conjunctions *because*, *but*, and *so*. After writing, tell students to share their writing with a partner. Remind students to signal when both partners have contributed to the conversation.
  - » Answers may vary but could include “Chimps use tools because they help make tasks easier,” “Chimps use tools, but they don’t use the same kind of tools as humans,” or “Chimps use tools, so they are intelligent animals.”

- Ask students to read **pages 116–117** to themselves to find the answer to the question: “What other tools do chimps use?”
- When students have finished reading, restate the question and ask students to answer.
  - » Chimps stick a blade of grass into a termite hole, pull out the blade of grass, and eat all the termites that have crawled on it. They also use plant stems.

What feelings do chimps show that humans show?

- » happiness, sadness, anger, and meanness

Goodall is more than a scientist. She is also an **activist**. An **activist** is someone who works hard to solve a problem and change something in the world. Goodall works as an animal rights **activist** to protect chimpanzees and their **habitats**. She tells others about human damage to **habitats**, such as hunting and pollution, and works to stop these problems. She loves working with young people and teaching them how to protect animals. She has written many books and has been the subject of books and movies. She has won many awards for her work in protecting chimpanzees. As of 2015, she was 81 years old and still working to spread the message that animals need to be protected!



*Jane Goodall continues to work as an animal rights **activist**.*

118

119

### Pages 118–119

- Ask students to read **pages 118–119** to themselves to find the answer to the question: “As an activist, what did Jane Goodall work to change?”
- When students have finished reading, restate the question and ask students to answer.
  - » She worked to protect chimpanzees and their habitats from human damage, such as hunting and pollution.

## DISCUSSING THE READING (15 MIN.)

- Have students turn to Activity Page 13.2. Explain that they will determine the main idea and supporting details about Jane Goodall using the information presented in the video clip and reading.
- As a group, determine the main idea about Jane Goodall. “If someone were to walk into our classroom and we could only tell them one thing about Jane Goodall, what would it be?”
- Next, determine the supporting details about Jane Goodall using information provided in the video clip and reading.

## Activity Page 13.2



### MULTILINGUAL/ENGLISH LEARNERS

#### Reading

##### Reading/Viewing Closely

|                                     |                                                                                                                                                                                                |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Entering/Emerging</b>            | Ask yes and no questions, such as, “Is an activist someone who works hard to change something?”                                                                                                |
| <b>Transitioning/<br/>Expanding</b> | Model for students how to find the key ideas and details in the text by rereading shorter portions and finding key words. Discuss what the words mean and why they think it’s in the sentence. |
| <b>Bridging</b>                     | Provide support for students as needed.                                                                                                                                                        |



### Check for Understanding

If students have difficulty identifying the main idea, then reread the first paragraph in the Reader to focus on a shorter paragraph in the text.

## WORD WORK: *BEHAVIOR* (5 MIN.)

- In the Read-Aloud, you heard Jane Goodall “has focused on studying animal behavior in chimpanzees.”
- Say the word *behavior* with me.
- Behavior is the actions of animals and people.
- Scientists study the behavior of animals to learn more about them.



- What behaviors do scientists show? How would you describe each behavior? Be sure to use the word *behavior* when you tell about it. (Ask two to three students. If necessary, guide and/or rephrase students' responses to make complete sentences: "One behavior a scientist shows is \_\_\_\_\_ because . . .")
- What's the word we've been talking about? What part of speech is the word *behavior*?

» *behavior; noun*

- **Use an Acting and Sharing activity for follow-up.** Say, "Turn to your partner and show them the behaviors of a mammal. Have your partner guess which mammal you are showing. Share why the behavior is unique to the mammal." Make sure that students use the word *behavior* in a complete sentence as they share.

### Lesson 13: Jane Goodall

## Writing



**Primary Focus:** Students will plan an informative paragraph about a vertebrate's characteristics and classifications. [W.3.2]

#### AN INFORMATIONAL PARAGRAPH (30 MIN.)

- Tell students that they are going to choose an animal from one of the five vertebrate groups that they learned about from the Read-Alouds and readings. Ask them to say together out loud the mnemonic for remembering the five groups: All My Best Friends Represent Vertebrates. Now ask them to say together out loud the names of the five groups: Amphibians, Mammals, Birds, Fish, Reptiles. Ask students which word in the mnemonic does not represent a specific animal group, but instead a larger group with backbones. (the last word, *vertebrates*)
- Tell students that each of them is going to write an informational paragraph about an animal and animal group of their choosing, and in the paragraph they will explain why the animal is classified as it is.
- Write the word *informational* on the board, and ask what word (or words) students see inside that word. You may wish to underline or box in the word *information* and/or *inform*. Explain that informational writing relays information, or facts, and informs the reader about a certain topic. For example, an informational paragraph may explain how electricity works or

### D Differentiation

#### Support

In a small group, read aloud the first paragraph on Jane Goodall. Identify the main idea in a short paragraph.

#### Challenge

Have students identify information that is presented in different formats on Jane Goodall such as speeches, graphs and charts.



why we have four seasons in the Northern Hemisphere. Tell students that sometimes when writing an informational paragraph, a writer may already know information, or facts, about the chosen topic. Explain that many times, however, writers will need to research several sources for information, including books, magazines, websites, etc.

- Tell students that they have collected a lot of information that is now available to help them with this informational paragraph. Point out the many helpful sources of information: the Animal Classification foldable (Activity Page 3.2), Brainstorming webs, and Field Journal responses.
- Remind students of the steps of the writing process—plan, draft, revise, edit, and publish—and tell them that all of the notes they have collected along with the Animal Classification foldable will provide the information they will need to write their informational paragraph. Tell students that they will each write an informational paragraph with guidance from you.
- Have students take out their copies of their Animal Classification foldable, Brainstorming webs, and Field Journal responses. Guide them in looking over the five Brainstorming webs and in deciding on which animal and animal group they are each going to write about. Tell them that the one Brainstorming Graphic Organizer they choose will provide the information and the plan for their paragraphs.
- Have students turn to Activity Page 13.3. Write these three steps on chart paper, a chalkboard, or a whiteboard. Tell students that once they choose an animal, they will do the following:
  1. Write a topic sentence.
  2. Write at least three supporting sentences from their sources to support the topic sentence.
  3. Write a concluding sentence.
- “Who can tell me what a topic sentence is?” Remind students that a topic sentence is the first sentence in a paragraph that tells the reader the main idea of that paragraph. In this case, the topic sentence will make a claim about the chosen animal and how it is classified. Share this example with students: “Frilled dragons, one of my favorite animals, are classified by scientists as reptiles.”
- “What will the supporting sentences, or evidence, provide?” Guide students in understanding that their supporting sentences will provide the reasons for their topic sentence, or claim. This is the information they will research in their sources. Share these example sentences with students. “Frilled dragons are grouped in the reptiles group because they are cold-blooded. Because

### Activity Page 13.3



## D Differentiation

### Support

Model the writing process for students.

### Challenge

Have students research additional resources to add information on their selected animal.

frilled dragons do not have a source of internal heat, like you and I do, they need a source of external heat, such as the sun or a heat lamp. Frilled dragons are in the reptile group because they lay eggs instead of giving birth to live young. Reptiles are also vertebrates, which is why they are grouped together into one group. Frilled dragons have scaly skin like other reptiles, instead of fur or feathers."



### MULTILINGUAL/ENGLISH LEARNERS

#### Writing

#### Writing

#### Entering/Emerging

Provide 1:1 prompting and support. Some students have difficulty finding information and taking notes. Some have difficulty turning notes into sentences and paragraphs. Adjust your assistance as needed.

#### Transitioning/Expanding

Provide support as needed.

#### Bridging

Encourage students to work independently, writing in complete sentences. Provide additional support as needed.

End Lesson

### Lesson 13: Jane Goodall

# Take-Home Material

- Students will complete Take-Home Page 13.1.

Take-Home Page 13.1





## 14

# “Scientists Who Classify Animals” and “Vertebrates around the World”

## PRIMARY FOCUS OF LESSON

### Reading

Students will use text features to quickly locate information about scientists who classify animals. [RI.3.5]

Students will demonstrate an understanding of the Tier 2 word *observe*. [L.3.4]

### Speaking and Listening

Students will ask and answer questions about vertebrates around the world. [RI.3.1]

### Writing

Students will draft an informative paragraph about a vertebrate's characteristics and classifications. [W.3.2b–d]

## FORMATIVE ASSESSMENT

Activity Page 14.1

Activity Page 14.2

Activity Page 14.3

**Text Feature Search** Locate text features. [RI.3.5]

**Questions and Answers** Ask questions throughout the reading and determine the correct answer. [RI.3.1]

**Informational Writing** Draft an informative writing piece. [W.3.2b]



## LESSON AT A GLANCE

|                                   | Grouping Recommendations                | Time    | Materials                                                                                                                                                                        |
|-----------------------------------|-----------------------------------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reading (35 min.)                 |                                         |         |                                                                                                                                                                                  |
| Introducing the Reading           | Whole Group                             | 5 min.  | <input type="checkbox"/> Activity Page 14.1<br><input type="checkbox"/> <i>Rattenborough’s Guide to Animals</i>                                                                  |
| Independent Reading               | Independent                             | 15 min. |                                                                                                                                                                                  |
| Discussing the Reading            | Whole Group                             | 10 min. |                                                                                                                                                                                  |
| Word Work: <i>Observe</i>         | Whole Group                             | 5 min.  |                                                                                                                                                                                  |
| Speaking and Listening (40 min.)  |                                         |         |                                                                                                                                                                                  |
| Introducing the Read-Aloud        | Whole Group                             | 10 min. | <input type="checkbox"/> Activity Pages 3.2, 14.2<br><input type="checkbox"/> <i>Rattenborough’s Guide to Animals</i><br><input type="checkbox"/> Animal Classification foldable |
| Presenting the Read-Aloud         | Whole Group                             | 30 min. |                                                                                                                                                                                  |
| Writing (45 min.)                 |                                         |         |                                                                                                                                                                                  |
| Transitional Words                | Whole Group/<br>Independent             | 10 min. | <input type="checkbox"/> Activity Pages 13.3, 14.3                                                                                                                               |
| Writing a Title                   | Whole Group/<br>Partner/<br>Independent | 10 min. |                                                                                                                                                                                  |
| Drafting an Informative Paragraph | Independent                             | 25 min. |                                                                                                                                                                                  |

## ADVANCE PREPARATION

### Writing

- Have students gather the Animal Classification foldable (Activity Page 3.2); Animal Webs; and Field Journals from the unit.
- You may pull students in a small group to provide guidance with drafting their narratives in the unit.

### Universal Access

- Have students share any experiences they may have had visiting a zoo. Discuss people who may work at the zoo to help keep the animals safe and healthy. Discuss what we need to know about animals to keep them safe and healthy in zoos but also in the wild. Ask, “How do we get this information?”
- Have students recall what they know about text features.
- You may want to work in a small group during the writing activities.
- To ensure that all students have the opportunity to contribute during Turn and Talk and Think-Pair-Share exchanges, provide students with a signal such as folding their hands or raising a hand to indicate when both partners have added to the conversation.

## Lesson 14: “Scientists Who Classify Animals” and “Vertebrates around the World”

# Reading



### Primary Focus

Students will use text features to quickly locate information about scientists who classify animals. [RI.3.5]

Students will demonstrate an understanding of the Tier 2 word *observe*. [L.3.4]

### VOCABULARY FOR “SCIENTISTS WHO CLASSIFY ANIMALS”

- The following are vocabulary words used in this lesson. Preview the words with the students before the lesson and refer back to them at appropriate times. The words also appear in the glossary in the back of *Rattenborough’s Guide to Animals*.

**zoologist, n.** a scientist who studies animals and their characteristics

**observe, v.** to watch closely and carefully

Vocabulary Chart for “Scientists Who Classify Animals”

| Type                | Tier 3<br>Domain-Specific Words | Tier 2<br>General Academic Words |
|---------------------|---------------------------------|----------------------------------|
| Vocabulary          | zoologist                       |                                  |
| Spanish Cognates    | zoólogo/a                       | observar                         |
| Multiple-Meaning    |                                 | observe                          |
| Sayings and Phrases |                                 |                                  |

### INTRODUCING THE READING (5 MIN.)

- Remind students that they have been reading and learning about how scientists classify animals. They have learned about characteristics of different animals.
- Tell students that today they will read a chapter entitled “Scientists Who Classify Animals” and learn about the scientists who study animal groups.

## D Differentiation

### Challenge

Have students brainstorm additional text features the author could have included in the chapter. List the text feature and possible information that would be included in each text feature.

## Activity Page 14.1



- Have students turn to Activity Page 14.1. Explain that they will use the text features in the chapter to make predictions about what they will learn in the chapter. Remind students that using text features will help them to locate information quickly and efficiently.
- **Write-Pair-Share:** Have students preview the chapter, looking for clues to what it is about. After each text feature listed, have students write a prediction about what they think they will learn about scientists who classify animals. After writing, have students share their predictions with a partner. Remind students to signal when both partners have contributed to the conversation.
  - » names of scientists, types of animals each scientist works with, how scientists classified different types of animals



### MULTILINGUAL/ENGLISH LEARNERS

#### Reading

##### Reading/Viewing Closely

#### Entering/Emerging

Ask students to point to text features in *Rattenborough's Guide to Animals* as you name them. Have them orally make a prediction about what they will find there. Read the text feature aloud. Have the students answer “Yes” or “No” if their prediction was correct.

#### Transitioning/ Expanding

Allow students to read and complete Activity Page 14.1 with a partner.

#### Bridging

Encourage students to work independently on Activity Page 14.1.

## D Differentiation

### Support

Pull a small group aside and read the chapter aloud. Use the following Guided Reading Supports as you guide students through the chapter.

### INDEPENDENT READING (15 MIN.)

- Students will read the chapter “Scientists Who Classify Animals” independently. While students are reading, they will analyze their before-reading prediction on Activity Page 14.1. Students will determine if their prediction was true or false. If their prediction was false, students will write a corrected version of each prediction.

**Note:** Pull a small group aside and read the chapter aloud. Use the following Guided Reading Supports as you guide students through the chapter.



## Chapter 15 Scientists Who Classify Animals



Rattenborough, here once again! You have been learning about how scientists study the **characteristics** of living things. They **classify** all living things into one of five large groups called **kingdoms**. You have been learning a lot about how animals are sorted into more specific groups within the animal **kingdom**.

The scientists who study animals and their **characteristics** are called **zoologists**. **Zoologists observe** animals to see the ways they are the same and the ways they are different. For example, **zoologists** discovered that some animals are **warm-blooded** and some are **cold-blooded**.

**Zoologists** also **classify** animals by whether or not they have a backbone. Animals with a backbone and a spinal cord are called **vertebrates**. Animals that do not have a backbone are called **invertebrates**. We learned that there are five groups of **vertebrates**—fish, birds, **amphibians**, **reptiles**, and **mammals**. The largest group of **vertebrates** is fish.

**Zoologists** also study other **characteristics** of animals. They study animal body parts and how they are alike or different. All animals need to breathe **oxygen**. But they may have different organs that help them breathe. Fish and young **amphibians** have **gills** that help them get **oxygen** out of the water. **Mammals**, **reptiles**, and adult **amphibians** get **oxygen** from the air using lungs.

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### GUIDED READING SUPPORTS

#### Pages 120–121

- Read the title of the chapter together as a class: “Scientists Who Classify Animals.”
- Ask, “Where in *Rattenborough’s Guide to Animals* could we quickly find the definition of *zoologist*?”
  - » the glossary
- Ask students to find the word.
- Call on one student to identify where the word is and read the definition. Note for students that the plural form of the word listed after the definition, *zoologists*, appears in this chapter more often than the singular form, *zoologist*.

- Follow the same procedure for *observe*. Note that another form of the word *observe* listed after the definition appears in the chapter—*observing*.
- Ask students to read **page 120** to learn one thing zoologists discovered about animals.
- When students have finished reading, restate the question and ask students to answer.
  - » Zoologists discovered that some animals are warm-blooded and some are cold-blooded.
- Ask students to read **page 121** to find the answer to the question: “What are three things zoologists do?”
- When students have finished reading, restate the question and ask students to answer.
  - » Zoologists classify animals by whether or not they have a backbone, study other characteristics of animals like body parts, and study how different animal babies are born and cared for.

**Zoologists** also study how different animal babies are born and cared for. Do you remember which group of animal mothers feed their babies milk from their own bodies?

Everything we have learned about animals was discovered by scientists. There have been many scientists who have been interested in animals since long, long ago. A Greek man named Aristotle first **classified** animals over 2,000 years ago. He wrote a book called *A History of Animals*. As scientists have discovered and learned more about animals, the **classification** system has changed. There is still much to learn about animals. After all, there are thousands of new animals yet to be discovered and **classified**!



*A statue of Aristotle*

122

123

## Pages 122–123

- Ask students to read **pages 122–123** to learn who Aristotle was.
- When students have finished reading, restate the question and ask students to answer.
  - » Aristotle was a Greek man who first classified animals over 2,000 years ago and wrote a book called *A History of Animals*.
- Ask, “Has the classification system for animals stayed the same over time? Which sentence on **page 122** answers the question?”
  - » No; as scientists have discovered and learned more about animals, the classification system has changed.

Every single day, scientists learn new facts about animals. Scientists even find new animals they didn't know existed. There is no end to new knowledge if you study living things!

Today, there are about one million scientists around the world who are studying and **classifying** animals, even as you read this. Every one of them spends the day **observing**, experimenting, and finding new information. This adds to our knowledge about the world we live in.



*Do you remember which group of animals feed their babies milk from their own bodies?*

124

125

## Pages 122–123

- Ask students to read **pages 122–123** to themselves to find out what scientists are doing now.
- When students have finished reading, restate the question and ask students to answer.
  - » Scientists are learning new facts about animals; studying and classifying animals; and observing, experimenting, and finding new information.



### Check for Understanding

If students are unable to identify key information from text features, then pull them aside to review text features.

If you want to be a **zoologist** when you grow up, there is plenty to study. You never know when someone is going to learn something that changes the way we think about the world. Who knows? Maybe you will be the first to find a **feathered** fish or a flying snail. It may sound silly now, but a hundred years ago, nobody knew that whales **communicated** with each other. What will you discover?



*What kind of animals would you like to **observe** if you were a **zoologist**?*

126

127

## Pages 126–127

- Ask students to read **pages 126–127** to themselves. Ask them to read the caption on **page 127** and turn to a partner to discuss what kind of animal they would like to observe if they were a zoologist.

### DISCUSSING THE READING (10 MIN.)

1. **Literal.** Have scientists learned all there is to know about animals? Why or why not?
  - » No; there is still much to learn, and scientists discover new animals all the time.
2. **Literal.** What is the name for scientists who study animals and their characteristics in order to classify them?
  - » zoologists
3. **Literal.** Why do scientists classify animals?
  - » to study and compare the diverse groups of animals
4. **Literal.** Who was the first to classify animals over 2,000 years ago?
  - A. a zoologist
  - B. a biologist
  - C. Aristotle
  - D. Newton
  - » C. Aristotle

### WORD WORK: OBSERVE (5 MIN.)

- In the Read-Aloud, you heard, “Every one of them spends the day [observe]ing, experimenting, and finding new information.”
- Say the word *observe* with me.
- To observe means to watch closely and carefully.
- Scientists observe animals’ behaviors to learn about their existence.
- What ways do scientists observe animals? How would you describe each classification? Be sure to use the word *observe* when you tell about it. (Ask two to three students. If necessary, guide and/or rephrase students’ responses to make complete sentences: “Scientists observe animals by \_\_\_\_\_ because . . .”) What’s the word we’ve been talking about? What part of speech is the word *observe*?
  - » *observe*; verb
- **Use an Acting and Sharing activity for follow-up.** Say, “Turn to your partner and show them ways that zoologists observe animals. Have your partner guess the type of observation. Share why zoologists observe animals in this way.” Make sure that students use the word *observe* in a complete sentence as they share.

## Lesson 14: “Scientists Who Classify Animals” and “Vertebrates around the World”

# Speaking and Listening



**Primary Focus:** Students will ask and answer questions about vertebrates around the world. [RI.3.1]

### VOCABULARY FOR “VERTEBRATES AROUND THE WORLD”

- The following are core vocabulary words used in this lesson. Preview the words with the students before the lesson. Students are not expected to be able to use these words immediately, but with repeated exposure throughout the lessons they will acquire a good understanding of most of the words. Students may also keep a “unit dictionary” notebook along with definitions, sentences, and/or other writing exercises using these vocabulary words.

**delta, n.** a triangular area found where a stream or river flows into a bigger body of water and deposits mud and sand in a fan-shaped area (**deltas**)

**reproduction, n.** the process that lets a plant or animal produce offspring, or young, of their own kind

#### Vocabulary Chart for “Vertebrates Around the World”

| Type                | Tier 3<br>Domain-Specific Words | Tier 2<br>General Academic Words |
|---------------------|---------------------------------|----------------------------------|
| Vocabulary          |                                 |                                  |
| Multiple-Meaning    |                                 | delta<br>reproduction            |
| Sayings and Phrases |                                 |                                  |

### INTRODUCING THE READ-ALoud (10 MIN.)

- Ask, “Who can tell me what we have been learning about?” Review with students the terms *classification*, *cold-blooded/warm-blooded*, and *vertebrate/invertebrate*. “What groups of animals have we been learning about?”



### Activity Page 3.2



## D Differentiation

### Support

If students have difficulty thinking of an example for one of the groups, you may wish to offer them clues to help them remember an animal that may be familiar.

### Activity Page 14.2



- Remind students that, in the previous lessons, they learned about five groups of vertebrate animals. Ask students to name the groups.

» amphibians, mammals, birds, fish, reptiles

- Review with students the section on Activity Page 3.2 that has been filled in during previous lessons, discussing the characteristics of each vertebrate group. If any spaces in the foldable are still empty, discuss with students what information can be filled in.
- Remind students that representatives of all five vertebrate groups, as well as invertebrates, live in their community. There may be many animals that students have seen in their neighborhoods, in nearby parks, or on trips to other places near where they live.
- Ask, “Who can think of an animal that lives in our community? How would you classify this animal?” Ask students to share their thinking and decision-making about how to classify the animals with questions such as “Why do you think so?” and “What evidence do you have for classifying a squirrel as a mammal?” Accept both vertebrate and invertebrate animals as part of this discussion.
- Explain that animals from these five vertebrate groups live all over the world in many different habitats. Tell students that today they will be hearing about vertebrate animals in seven very different places. Explain that good readers ask and answer questions when they read. Explain that they will be stopping during the Read-Aloud to record questions they have as well as answer questions about the topic.
- Have students turn to Activity Page 14.2. Explain that they will record their questions and answers on Activity Page 14.2.



### MULTILINGUAL/ENGLISH LEARNERS

#### Speaking and Listening

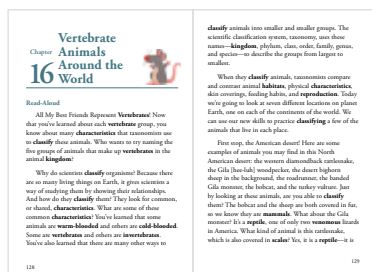
##### Listening Closely

|                                |                                                                                                                |
|--------------------------------|----------------------------------------------------------------------------------------------------------------|
| <b>Entering/Emerging</b>       | Pose questions that have yes or no answers; for example, “Is the black Alpine salamander an amphibian?”        |
| <b>Transitioning/Expanding</b> | Allow students to confer with a partner before adding to the class discussion during the Read-Aloud.           |
| <b>Bridging</b>                | Encourage students to use complete sentences when participating in the class discussion during the Read-Aloud. |



## PRESENTING THE READ-ALOUD (30 MIN.)

- Tell students to turn to the table of contents and locate today's chapter, "Vertebrate Animals Around the World." Have students turn to the first page of the chapter and follow along during the Read-Aloud.



### Student Reader pages 128–129

#### All My Best Friends Represent Vertebrates!

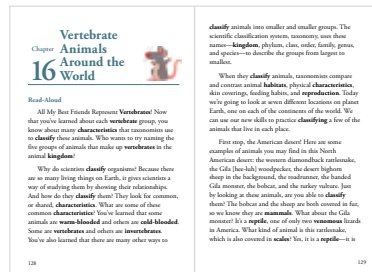
All My Best Friends Represent Vertebrates!

Now that you've learned about each vertebrate group, you know about many characteristics that taxonomists use to classify these animals. Who wants to try naming the five groups of animals that make up vertebrates in the animal kingdom?

Why do scientists classify organisms? Because there are so many living things on Earth, it gives scientists a way of studying them by showing their relationships. And how do they classify them? They look for common, or shared, characteristics. What are some of these common characteristics? You've learned that some animals are warm-blooded and others are cold-blooded. Some are vertebrates and others are invertebrates. You've also learned that there are many other ways to classify animals into smaller and smaller groups. The scientific classification system, taxonomy, uses these names—kingdom, phylum, class, order, family, genus, and species—to describe the groups from largest to smallest.

When they classify animals, taxonomists compare and contrast animal habitats, physical characteristics, skin coverings, feeding habits, and reproduction. Today we're going to look at seven different locations on planet Earth, one on each of the continents of the world. We can use our new skills to practice classifying a few of the animals that live in each place.

- **Question and Answer Pause:** As a whole group, brainstorm questions after listening to the text about vertebrates. Record responses on the board as a model for students.



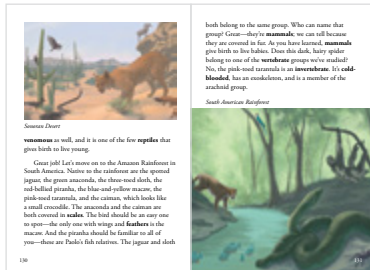
## Student Reader pages 128–129

### Sonoran Desert

First stop, the American desert! Here are some examples of animals you may find in this North American desert: the western diamondback rattlesnake, the Gila [hee-luh] woodpecker, the desert bighorn sheep in the background, the roadrunner, the

banded Gila monster, the bobcat, and the turkey vulture. Just by looking at these animals, are you able to classify them? The bobcat and the sheep are both covered in fur, so we know they are mammals. What about the Gila monster? It's a reptile, one of only two venomous lizards in America. What kind of animal is this rattlesnake, which is also covered in scales? Yes, it is a reptile—it is venomous as well, and it is one of the few reptiles that gives birth to live young.

- **Write-Share-Write:** Have students write a complete sentence using the following sentence starter:
  - When scientists classify animals,
- After writing, have students share their sentence with a partner, who will write down their partner's sentence on scientists classifying animals. Have students give feedback to their partner's writing, such as a question or suggestion about animal classification. Based on feedback, allow students to expand on their own writing. Remind students to signal when both partners have contributed to the conversation.
  - » Answers may vary but could include "When scientists classify animals, they look for characteristics that they share" or "When scientists classify animals, they look for common characteristics."
- **Question and Answer Pause:** As a whole group, brainstorm questions after listening to the text about the Sonoran Desert. Record questions in Box 1 on Activity Page 14.2.
- **Think-Pair-Share** With a partner, students will answer the following question and write their response in Box 2 on Activity Page 14.2:
  - How do you know the roadrunner is not a reptile?



## Student Reader pages 130–131 Rainforest

Great job! Let's move on to the Amazon rainforest in South America. Native to the rainforest are the spotted jaguar, the green anaconda, the three-toed sloth, the red-bellied piranha, the blue-and-yellow macaw,

the pink-toed tarantula, and the caiman, which looks like a small crocodile. The anaconda and the caiman are both covered in scales. The bird should be an easy one to spot—the only one with wings and feathers is the macaw. And the piranha should be familiar to all of you—these are Paolo's fish relatives. The jaguar and sloth both belong to the same group. Who can name that group? Great—they're mammals; we can tell because they are covered in fur. As you have learned, mammals give birth to live babies. Does this dark, hairy spider belong to one of the vertebrate groups we've studied? No, the pink-toed tarantula is an invertebrate. It's cold-blooded, has an exoskeleton, and is a member of the arachnid group.

- **Question and Answer Pause:** With a partner, brainstorm questions after listening to the text about the rainforest. Record questions in Box 3 on Activity Page 14.2.
- **Think-Pair-Share** With a partner, students will answer the following question and write their response in Box 4 on Activity Page 14.2:
  - Is the pink-toed tarantula a vertebrate or an invertebrate? Why do you think so?
    - » It's an invertebrate because it has an exoskeleton, which means it has no internal backbone; it has eight legs, which means it is an arachnid.



Alpine Mountains

Let's look at some of the animals that make their homes high in the Alpine mountains of Europe. What do you see in the background, there on the rocks? The rock ptarmigan (uh-uh-gah) lives in the Alps. So does the black Alpine salamander, the marmot, the golden eagle, the Alpine ibex, and the pine marten. Which one do you think is not a member of any of the vertebrate groups we've studied? Yes, the butterfly is an invertebrate, and it's classified in the largest group of animals on Earth: insects! The black Alpine salamander shares characteristics with both a lizard and a frog. Think about how you would classify it. It's a moist-skinned amphibian, but an unusual one that lives only

on land and gives birth to fully developed live young. What two-legged, feathered animals do you see? Yes, the birds pictured are the ptarmigan and the golden eagle. And mammals—are there any fur-covered creatures in the Alps? Yes, the marmot and the pine marten.

The Ganges (gan-jee) Delta of India, on the continent of Asia, is home to swamps, forests, and creeks. The animals that live there include the black-crowned night heron, the wild boar, the Olive Ridley turtle, the Ganges River dolphin, the Indian python, the blue-coral kingfisher, the crocodile, and the shark. Can you spot the cold-blooded reptile here?

The Ganges Delta



## Student Reader pages 132–133

### Alpine Mountains

Let's look at some of the animals that make their homes high in the Alpine mountains of Europe. What do you see in the background, there on the rocks? The rock ptarmigan [tahr-mi-guhn] lives in the Alps. So does the black Alpine salamander, the marmot, the golden eagle, the

Apollo butterfly, and the pine marten. Which one do you think is not a member of any of the vertebrate groups we've studied? Yes, the butterfly is an invertebrate and is classified in the largest group of animals on Earth: insects! The black Alpine salamander shares characteristics with both a lizard and a frog. Think about how you would classify it. It's a moist-skinned amphibian, but an unusual one that lives only on land and gives birth to fully developed live young. What two-legged, feathered animals do you see? Yes, the birds pictured are the ptarmigan and the golden eagle. And mammals—are there any fur-covered creatures in the Alps? Yes, the marmot and the pine marten.

- **Question and Answer Pause:** Independently, brainstorm questions after listening to the text about the Alpine mountains. Record questions in Box 5 on Activity Page 14.2.
- Independently, students will answer the following question and write their responses in Box 6 on Activity Page 14.2:
  - The black Alpine salamander's method of reproduction makes it a pattern-breaker. How is its reproduction process different from other amphibians?
    - » It lives its entire life on land and gives birth to live babies; other amphibians lay eggs in wetlands and live part of their lives in water.



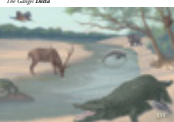
The Ganges Delta

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on land and gives birth to fully developed live young. What two-legged, feathered animals do you see? Yes, the birds pictured are the ptarmigan and the golden eagle. And mammals—are there any fur-covered creatures in the Alps? Yes, the marmot and the pine marten.

The Ganges (gan-jee) Delta of India, on the continent of Asia, is home to swamps, forests, and creeks. The animals that live there include the black-crowned night heron, the wild boar, the Olive Ridley turtle, the Ganges River dolphin, the Indian python, the blue-coral kingfisher, the crocodile, and the shark. Can you spot the cold-blooded reptile here?

The Ganges Delta



## Student Reader pages 133–134

### The Ganges Delta

The Ganges [gan-jee] Delta of India, on the continent of Asia, is home to swamps, forests, and creeks. The animals that live there include the black-crowned night heron, the wild boar, the Olive Ridley turtle, the Ganges

River dolphin, the Indian python, the blue-eared kingfisher, the mugger crocodile, and the chital. Can you spot the cold-blooded reptiles here? You bet—the crocodile, the turtle, and the python are all representatives of the reptile group. Which ones are warm-blooded mammals? Yes, the boar, or wild pig, and the chital, a common deer of the area. The polluted waters of the Ganges River have ruined the habitat for a number of animals, and this river dolphin is endangered because of the river's pollution. Only one of four river dolphin species in the world, it is a mammal just like its ocean-loving relatives. The Ganges River dolphin is sometimes called the blind dolphin; each of its eyes lacks a lens to give it clear vision, but it still uses its eyes to help it find direction. And, of course, our feathered friends of the sky—the kingfisher and the heron—are both birds.

You bet—the crocodile, the turtle, and the python are all representatives of the **reptile** group. Which ones are **warm-blooded mammals**? Yes, the boar, or wild pig, and the chital, a common deer of the area. The polluted waters of the Ganges River have ruined the **habitat** for a number of animals, and this river dolphin is endangered because of the river's pollution. Only one of four river dolphin species in the world, it is a **mammal** just like its ocean-loving relatives. The Ganges river dolphin is sometimes called the blind dolphin, each of its eyes lacks a lens to give it clear vision, but it still uses its eyes to help it find direction. And, of course, our **feathered** friends of the sky—the kingfisher and the heron—are both birds.

*African savanna*

I bet you've seen pictures of the many large game animals that make their homes in the savannas of Africa. They include the giraffe, the elephant, the hyena, the wildebeest, the lion, the zebra, and the impala. All of these animals belong to the same group of **vertebrate** animals. What are they? Yes, **mammals**! Birds, like the hornbill and the quelea [kwee-lee-uh], live there as well. And **venomous** reptiles, snakes like the gaboon and the black mamba, are deadly to their prey in the savannas.

## Student Reader page 135 African Savanna

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vertebrate animals. What are they? Yes, mammals! Birds, like the hornbill and the quelea [kwee-lee-uh], live there as well. And venomous reptiles, snakes like the gaboon and the black mamba, are deadly to their prey in the savannas.

The Great Barrier Reef of Australia is home to many different sea animals. Animals here include the bottlenose dolphin, the blue-spotted stingray, the box jellyfish, the black-tipped reef shark, and the leatherback sea turtle. Is the jellyfish a fish? Who remembers? No, in spite of its name, the jellyfish is an **invertebrate** and has no gills. Be sure to notice the jellyfish's many long tentacles. So, do you think the anemonefish is a fish or not? Yes, it is indeed a fish, also called the clown fish because of its colorful markings.

*Coral reef*

and it lives among the tentacles of another **invertebrate**, the sea anemone. The sea turtle belongs to the **reptile** group, and you probably remember that the dolphin is a **warm-blooded mammal** that breathes with its lungs. How about the shark? Yes, it is a fish too. It breathes through **gills**, and unlike the dolphin, does not provide milk for its young. And the stingray? A fish, too—a relative of the shark.

Finally, let's look at Antarctica, the southernmost continent and one of the coldest places on Earth. Emperor penguins live in its icy waters, along with blue whales and humpback whales. Largest seals, then, and even green squid call the ice in Antarctica their home. Only two **vertebrate** animal groups are found on the land in Antarctica. What are they? That's right, **mammals** and birds. You learned that these two groups share another common **characteristic** as well. **Mammals** and birds are both **warm-blooded**. The energy in the food they eat is used to warm their bodies and keep them from freezing.

These Antarctic animals **survive** in harsh frozen conditions, and they are largely dependent on kelp, tiny plants that grow in the water beneath the ice packs. They are the primary, or main, source of food for the **predators** of Antarctica.

## Student Reader pages 136–137 Coral Reef


The Great Barrier Reef of Australia is home to many different sea animals. Animals here include the bottlenose dolphin, the anemonefish, the blue-spotted stingray, the box jellyfish, the black-tipped reef shark, and the leatherback sea turtle. Is the jellyfish a

fish? Who remembers? No, in spite of its name, the jellyfish is an invertebrate and has no gills. Be sure to notice the jellyfish's many long tentacles. So, do you think the anemonefish is a fish or not? Yes, it is indeed a fish, also

called the clown fish because of its colorful markings, and it lives among the tentacles of another invertebrate, the sea anemone. The sea turtle belongs to the reptile group, and you probably remember that the dolphin is a milk-producing mammal that breathes with its lungs. How about the shark? Yes, it is a fish too. It breathes through gills and, unlike the dolphin, does not provide milk for its young. And the stingray? A fish, too—a relative of the shark.

- **Question and Answer Pause:** Independently, brainstorm questions after listening to the text about the coral reef. Record questions in Box 7 on Activity Page 14.2.
- Independently, students will answer the following question and write their responses in Box 8 on Activity Page 14.2:
  - Two of the animals shown are the black-tipped reef shark and the blue-spotted stingray. To what vertebrate group do they belong, and what classifies them in this group?
    - » They're fish: they are fully aquatic; they breathe through gills; they have skeletons made of cartilage.

The Great Barrier Reef of Australia is home to many different sea animals. Animals here include the bottlenose dolphin, the manatee, the blue spotted stingray, the lion jellfish, the black-tipped reef shark, and the humpback whale. In the jellfish's life? Who remembers? No, in spite of its name, the jellfish is an invertebrate and has no gills. Be sure to notice the jellfish's many long tentacles. So, do you think the manatee is a fish or not? Yes, it is indeed a fish, also called the clown fish because of its colorful markings.



*Coral reef*

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and is born among the tentacles of another invertebrate, the sea anemone. The sea turtle belongs to the reptile group, and you probably remember that the dolphin is a milk-producing mammal that breathes with its lungs. How about the shark? Yes, it is a fish too. It breathes through gills, and unlike the dolphin, does not provide milk for its young. And the stingray? A fish, too—a relative of the shark.

Finally, let's look at Antarctica, the southernmost continent and one of the coldest places on Earth. Emperor penguins live in its icy waters, along with blue whales and humpback whales. Leopard seals, skua, and snow petrels spend half the year in darkness in this frozen coastal region. Only two vertebrate animal groups are found on the land in Antarctica. What are they? That's right, mammals and birds. You learned that these two groups also share another common characteristic as well. Mammals and birds are both warm-blooded. The energy in the food they eat is used to warm their bodies and keep them from freezing.

These Antarctic animals survive in harsh frozen conditions, and they are largely dependent on krill, tiny shrimp-like crustaceans with mouthparts that live in the waters beneath the ice packs. They are the primary, or main, source of food for the predators of Antarctica.

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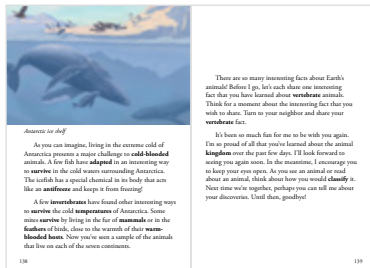
## Student Reader page 137

### Antarctic Ice Shelf

Finally, let's look at Antarctica, the southernmost continent and one of the coldest places on Earth. Emperor penguins live in its icy waters, along with blue whales and humpback whales. Leopard seals, skua, and snow petrels spend half the year in

darkness in this frozen coastal region. Only two vertebrate animal groups are found on the land in Antarctica. What are they? That's right, mammals and birds. You learned that these two groups also share another common characteristic as well. Mammals and birds are both warm-blooded. The energy in the food they eat is used to warm their bodies and keep them from freezing.

These Antarctic animals survive in harsh frozen conditions, and they are largely dependent on krill, tiny shrimp-like crustaceans with exoskeletons that live in the waters beneath the ice packs. They are the primary, or main, source of food for the predators of Antarctica.



## Student Reader page 138–139

### Rattenborough Waving Good-bye

As you can imagine, living in the extreme cold of Antarctica presents a major challenge to cold-blooded animals. A few fish have adapted in an interesting way to survive in the cold waters surrounding Antarctica. The icefish has a special chemical in its body that

acts like an antifreeze and keeps it from freezing!

A few invertebrates have found other interesting ways to survive the cold temperatures of Antarctica. Some mites survive by living in the fur of mammals or in the feathers of birds, close to the warmth of their warmblooded hosts. Now you've seen a sample of the animals that live on each of the seven continents.

There are so many interesting facts about Earth's animals! Before I go, let's each share one interesting fact that you have learned about vertebrate animals. Think for a moment about the interesting fact that you wish to share. Turn to your neighbor and share your vertebrate fact.

It's been so much fun for me to be with you again. I'm so proud of all that you've learned about the animal kingdom over the past few days. I'll look forward to seeing you again soon. In the meantime, I encourage you to keep your eyes open. As you see an animal or read about an animal, think about how you would classify it. Next time we're together, perhaps you can tell me about your discoveries. Until then, good-bye!

- On Activity Page 14.2, have students list additional questions they may have about the unit.
- Gather all questions for students to independently research if time permits.

Lesson 14: “Scientists Who Classify Animals” and  
“Vertebrates around the World”

# Writing



**Primary Focus:** Students will draft an informative paragraph about a vertebrate's characteristics and classifications. [W.3.2b–d]

## TRANSITIONAL WORDS (10 MIN.)

- Have students take out Activity Page 13.3. Tell students that they are going to write transitional words for the supporting sentences of their informative paragraphs.
- Tell students that transitional words are words or phrases that link sentences together in writing. Display the following paragraph and read it aloud:
  - Frilled dragons, one of my favorite animals, are classified by scientists as reptiles. First, dragons are grouped in the reptiles group because they are cold-blooded. Because frilled dragons do not have a source of internal heat, like you and I do, they need a source of external heat, such as the sun or a heat lamp. Another reason frilled dragons are in the reptile group is that they lay eggs instead of giving birth to live young. Reptiles are also vertebrates, which is why they are grouped together into one group. Finally, frilled dragons have scaly skin like other reptiles, instead of fur or feathers. These are the reasons that frilled dragons are categorized as reptiles, and I hope to have one of these awesome reptiles as a pet someday!
- Tell students that words *first*, *another*, and *finally* are examples of transitional words. Have students share additional transitional words or phrases to use in their paragraphs. Display examples using the following words or phrases:
  - First of all,
  - To start,
  - Next,
  - Another fact,
  - Also,
  - Lastly,
  - Most importantly,



- Have students read their supporting sentences and write transitional words for each sentence on Activity Page 13.3. Remind students that their transitional words or phrases are written at the beginning of their sentences. You may allow students to read over their sentences independently or with a partner for clarity and flow in their writing.



## MULTILINGUAL/ENGLISH LEARNERS

### Writing

#### Writing Transitional Words

|                                |                                                                                                                                       |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <b>Entering/Emerging</b>       | Have students choose one transitional word or phrase for each supporting sentence and write it at the beginning of the sentence.      |
| <b>Transitioning/Expanding</b> | Provide students with a bank of transitional words or phrases to write in their paragraphs.                                           |
| <b>Bridging</b>                | Have students write a transitional word or phrase for each supporting sentence independently, and have a partner check their writing. |

## WRITING A TITLE (10 MIN.)

- Have students take out Activity Pages 14.3 and 13.3. Tell students they are going to write a title for their informative paragraphs. Tell students that a good title for an informative text is the following:
  - relevant to the topic or information in the text
  - short and fits on one line
  - capitalized properly
- **Think-Pair-Share:** Have students look at and read the title of the Reader, *Rattenborough's Guide to Animals*, with a partner. Have students explain why *Rattenborough's Guide to Animals* is a good title for the Reader. Remind students to signal when both partners have contributed to the conversation.
- Ask the following questions about the title of the Reader:
  - Is the title relevant to the topic or information in the text?
    - » yes
  - Is the title short and able to fit on one line?
    - » yes



## Differentiation

### Support

Have students name the part of the book where they can find the title.

### Challenge

Have students give good titles for history books, journals, documentaries, and/or informative movies they have heard.

- Is the title capitalized?
  - » yes
- **Turn and Talk:** Tell students that the titles of their informative paragraphs should have the name of the animal they have chosen for their writing. Have students turn to a different partner and share title ideas for their informative paragraph using the information from Activity Page 13.3. Have them answer the questions below as they share their ideas:
  - Is the title relevant to the topic or information in the text?
  - Is the title short and able to fit on one line?
  - Which words are capitalized?
- Remind students to signal when both partners have contributed to the conversation.
- Tell students to choose a title from their discussions with their partner. Have students write the title of their informative paragraph on the first line of Activity Page 14.3.

#### DRAFTING AN INFORMATIVE PARAGRAPH (25 MIN.)

- Have students take out Activity Pages 14.3 and 13.3. Tell students that they will draft at least five sentences today, but they may also wish to write additional sentences about their chosen animal, such as descriptions of its habitat, eating habits, their thoughts about the animal, and interesting facts, including which animals are pattern breakers and why.
- Remind students that they will be able to use what they already know to supply the reasons for the animal's classification and any other information they would like to include. You may also wish to allow students to research further, using trade books in the classroom, their Skills Reader, websites, and other sources.
- Allow students time to draft their paragraphs before collecting them for review. Remind students to include transitional words in their drafts. You may pull students in small groups to answer any questions about drafting their narratives.



## MULTILINGUAL/ENGLISH LEARNERS

### Writing

#### Informative Paragraph Drafts

|                                     |                                                                                                                                                                                                                                      |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Entering/Emerging</b>            | Have students write one sentence at a time from Activity Page 13.3 to Activity Page 14.3.                                                                                                                                            |
| <b>Transitioning/<br/>Expanding</b> | Have students check their drafts with a partner to ensure all sentences are copied onto Activity Page 14.3.                                                                                                                          |
| <b>Bridging</b>                     | Ask students questions to check if their drafts are complete, such as “Does your draft have a topic sentence, supporting sentences, and a conclusion?” and “Does your paragraph have transitional words to show order of sentences?” |

End Lesson

## 15

# Revising, Editing, and Publishing

## PRIMARY FOCUS OF LESSON

**Writing**

Students will revise and edit their informative drafts using peer feedback. [W.3.5]

Students will publish their informative drafts. [W.3.6]

Students will use complete sentences while sharing and providing feedback on their informative paragraphs. [SL.3.6]

## FORMATIVE ASSESSMENT

**Activity Pages**  
15.1, 15.2

**Writing** Students will revise and edit their informative paragraphs. [W.3.5]


**Activity Page 15.3**

**Writing** Students will publish their informative paragraphs using technology or an alternative. [W.3.6]



**Teacher Presentation Screens:**  
all lessons include slides

## LESSON AT A GLANCE

|                                 | Grouping Recommendations                                                                                             | Time    | Materials                                  |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------|---------|--------------------------------------------|
| <b>Writing (120 min.)</b>       |                                                                                                                      |         |                                            |
| Revising Informative Paragraphs | Whole Group/<br>Partners                                                                                             | 30 min. | □ Activity Pages 14.3, 15.1,<br>15.2, 15.3 |
| Editing Informative Paragraphs  | Whole Group/<br>Independent                                                                                          | 20 min. |                                            |
| Informative Final Drafts        | Independent                                                                                                          | 40 min. |                                            |
| Paragraph Sharing               | Whole Group/<br> <b>Small Group</b> | 30 min. |                                            |

## ADVANCE PREPARATION

### Writing

- Ensure students have access to technology to publish their informative paragraphs. You may want to plan time at your school's technology lab before publishing. Remind students of your school's policies and procedures with technology use.
- Prepare for small group and partner activities while publishing their informative paragraphs in the unit.

### Universal Access

- You may want to work in a small group during the writing activities.
- To ensure that all students have the opportunity to contribute during Turn and Talk and Think-Pair-Share exchanges, provide students with a signal such as folding their hands or raising a hand to indicate when both partners have added to the conversation.

## Lesson 15: Revising, Editing, and Publishing

## Writing

**Primary Focus**

Students will revise and edit their informative drafts using peer feedback. [W.3.5]

Students will publish their informative drafts. [W.3.6]

Students will use complete sentences while sharing and providing feedback on their informative paragraphs. [SL.3.6]

**REVISING INFORMATIVE PARAGRAPHS (30 MIN.)**

- Divide the class into pairs. Whenever possible, pair students with someone they have not worked with thus far in the unit so they can have a fresh perspective on their writing.
- Have students take out Activity Pages 15.1 and 14.3. Remind students that they finished drafting their informative paragraphs about an animal or animal group.
- Ask, “What are the steps of the writing process?”
  - » plan, draft, revise, edit and publish
- Tell students they are going to revise their informative paragraphs using feedback from their peers. Remind students that revising includes making changes to the content or the order of the content.
- Explain that they will read their informative paragraphs to their partner. When they are finished reading, their partner will ask questions or give suggestions about the characteristics and classification of the animal in their paragraph. Model giving peer feedback using the following questions and sentence starters:
  - How do you classify the animal or animal group in your writing?
  - What evidence did you use to explain your animal's classification and characteristics?
  - I suggest you use the words *first*, *next*, and *finally* to order the evidence in your paragraph.
  - I think \_\_\_\_\_ is a great title for your writing.

## Activity Page 15.1



- Tell students that they are providing positive feedback using complete sentences. Remind students that a complete sentence is a group of words that express a complete thought. Review with students what a complete sentence needs to have:
  - subject
  - predicate (verb + object)
- Allow students time to revise their paragraphs on Activity Page 14.3. Have students look at Activity Page 15.1. Explain that they will answer the questions after receiving feedback given from their partner. Remind students to signal when both partners have finished the activity.
- **Think-Pair-Share:** Ask, “What is one improvement you will make in your informative paragraph?”
- Have students share with a partner one improvement they are making in their paragraphs. Remind students to signal when both partners have contributed to the conversation.
- Tell students that they will use the feedback from their peers to write the final drafts of their informative paragraphs.

## D Differentiation

### Support

Have students think about the characteristics, habitat, and features as places to improve their informative paragraphs.

## Activity Page 15.2



### MULTILINGUAL/ENGLISH LEARNERS Writing Providing Feedback for Revisions

|                                |                                                                                                                                                                                                  |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Entering/Emerging</b>       | Provide students with one question or one suggestion to give feedback on their partner’s writing such as “Where does your animal live?” or “I think you can add more details about the habitat.” |
| <b>Transitioning/Expanding</b> | Have students give one question and one suggestion to their partner’s writing such as “Where does your animal care for its babies?” and “I think you can add details about its body.”            |
| <b>Bridging</b>                | Provide students with a bank of questions and suggestions to give feedback to their partner’s writing if needed.                                                                                 |

### EDITING INFORMATIVE PARAGRAPHS (20 MIN.)

- Have students take our Activity Pages 15.2 and 14.3.
- Ask, “What are the steps of the writing process?”
  - » plan, draft, revise, edit, and publish



- Tell students that they are going to edit their informative paragraphs.
- Tell students they will edit their informative drafts. Remind students that editing involves corrections to grammar, punctuation, and spelling in their writing.
- Direct students to Activity Page 15.2. Review each question. Remind students to focus on each question as they edit for capitalization, punctuation, spelling, and grammar in their informative paragraphs.
- Allow students time to edit their drafts before collecting their checklists for review. Tell students that they will use their edited drafts to publish the final drafts of their informative paragraphs.
- If students are using technology to edit, remind them that they are making edits on the computer.

### INFORMATIVE FINAL DRAFTS (40 MIN.)

- Have students take out Activity Pages 15.3 and 14.3.
- Ask, “What are the steps of the writing process?”
  - » plan, draft, revise, edit, and publish
- Tell students they will publish their informative paragraphs.
- Remind students that publishing involves making a final version of their informative paragraphs. This version of their paragraphs should be a clean version with no additional edits or revisions needed.
- Explain that they will write their final drafts on Activity Page 15.3 using Activity Page 14.3. This is where they take their time and write the final version so it is legible and clean. If students are publishing using technology, explain that they will type their final drafts using a computer.
- Allow students time to complete the final drafts of their informative paragraphs before collecting them for review. You may pull students in small groups to answer any questions about publishing their informative paragraphs.

### Activity Page 15.3





## MULTILINGUAL/ENGLISH LEARNERS

### Writing

#### Informative Paragraphs Final Drafts

|                                |                                                                                                                                                                                             |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Entering/Emerging</b>       | Have students number each sentence and copy one sentence at a time. Have students check that all sentences are copied on their paper.                                                       |
| <b>Transitioning/Expanding</b> | Have students work with a partner to review their edits on their drafts with the Editing Checklist.                                                                                         |
| <b>Bridging</b>                | Ask students questions to check revisions and edits for their final drafts, such as “Do you have a title for your paragraph?” and “Is your conclusion the last sentence of your paragraph?” |

## PARAGRAPH SHARING (30 MIN.)



### Small Group

- Divide students into small groups. Have students take out Activity Page 15.3 or the final drafts using technology. Tell students that they are going to share their informative paragraphs.
- Explain that they are going to read their informative paragraphs to their peers. Each presenter will have five minutes to read their writing.
- Remind students of the following tips as their peers share their presentations:
  - Gain your peers' attention in respectful ways.
  - Listen to others with care.
  - Speak and ask questions one at a time after the presentation.
- Tell students that they will have one minute to give positive comments on their peer's writing. Model giving positive comments before students share their paragraphs. Sample responses are below:
  - “I like the way you described the habitats of reptiles.”
  - “When you talked about the bird's wings, it reminded me of how some birds cannot fly.”
  - “You explained why turtles are cold-blooded very well in your writing.”

- Have students share their presentations. Ensure each student has five minutes to read their informative paragraphs.
- Include one minute for students to give positive comments about each presentation.
- Circulate the room and listen to students' complete sentences. Provide feedback as needed.
- Congratulate students on their hard work when the presentations are over.

~~~~~ **End Lesson** ~~~~~

# Pausing Point 2

## Note to Teacher

You have now completed the *Fur, Fins, and Feathers: Animal Classification* unit. Before completing the end of unit assessment, it is recommended that you pause here and spend a day reviewing, reinforcing, or extending the material taught.

You may do the activities in any order or combination, using whole class or small groups to meet the needs of the students.

## ACTIVITIES

### Key Vocabulary Brainstorming

**Materials:** Chart paper, chalkboard, or whiteboard

- Give students a key domain concept or vocabulary word such as *shed*. Have them brainstorm everything that comes to mind when they hear the word, such as *cast off*, *skin*, *grow*, *molt*, etc. Record students' responses on a piece of chart paper, a chalkboard, or a whiteboard for reference.

### Bird Study

**Materials:** Books about local birds; bird feeder, bird food

- You may wish to study some common local birds so that students recognize the birds in their area. Then, you may wish to hang a bird feeder near a classroom window so that students can observe this group of animals feeding. Students may record their observations in a notebook.

### Animal Groups Bulletin Board

**Materials:** Bulletin board; drawing paper, drawing materials; magazines

- Tell the class or a group of students that together they are going to add to the animal groups bulletin board they created earlier to help them remember what they have learned in this domain. Have students brainstorm important information about the groups of animals they have learned. Have each student choose one idea to draw a picture of and ask them to write a caption

for the picture. Post students' drawings in the categories they describe. (Warm-blooded would go in the Mammals or Birds section, for example.) You may want to have more than one student draw/write about each concept. Then, have students bring in images or cut out images of animals from each of the groups and post those onto the bulletin board as well.

## Venn Diagram

**Materials:** Pausing Point Page PP.5, chart paper, chalkboard, or whiteboard

- Tell students that together you are going to compare and contrast two things or animals they have learned about by asking how they are similar and how they are different. Use Pausing Point Page PP.5 to list two items or animals at the top of the diagram and to capture information provided by students. Choose from the following list, or create a pair of your own:
  - insects and arachnids
  - amphibians and reptiles
  - birds and fish
  - mammals and humans
  - an object in the classroom and an organism outside the window
- You may wish to prepare several copies of the Venn diagram to compare and contrast several things or animals. You may also wish to have students use these diagrams as brainstorming information for further writing.
- You may wish to have some students use Pausing Point Page PP.5 to complete this activity independently.
- You may wish to have some students create a three-way Venn diagram to compare and contrast three things or animals (for example, carnivores, omnivores, and herbivores; amphibians, reptiles, and birds; etc.).

## Create a Graphic

**Materials:** Visual Support 3.1

- Have students create a different style of visual representation to show how many invertebrates there are on Earth compared to vertebrates (for example, a pie graph, a bar graph, etc.)

Pausing Point  
Page PP.5



## Writing Prompts

**Materials:** Paper and pencil

- Students may be given an additional writing prompt such as the following:
- Some characteristics of a reptile (or fish, bird, or mammal) are . . .
- An invertebrate is \_\_\_\_\_.
- A vertebrate is \_\_\_\_\_.
- A mammal's covering is helpful because \_\_\_\_\_.
- I know a bird is a warm-blooded vertebrate because \_\_\_\_\_.
- The most interesting group of animals is . . . because \_\_\_\_\_.
- Compare and contrast an egret and a hippopotamus.
- Compare and contrast a snake and a lizard.
- Pretend you are a herpetologist and you have discovered a brand new species of animal. Describe the characteristics of the animal and how you would classify it based on those characteristics. Be sure to name this new animal!
- Imagine that you wake up one morning, and it is Morph Day! Animals in your neighborhood, pets, perhaps even family members, have morphed into different animal groups. Explain how the features that once classified one or a few of these animals into their correct groups have changed. Describe the changes and the new classifications based on these metamorphoses.

## Riddles for Core Content

- **Present the following riddles to students:**
  - I am a large group in the classification system that scientists use to classify living things. Two of my types are called Plant and Animal. What am I called?
    - » a kingdom
  - I am an animal that eats mainly meat. What am I?
    - » a carnivore
  - I am an animal that eats only plants. What am I?
    - » an herbivore

- I am an animal that eats both meat and plants. What am I?
  - » an omnivore
- I am the trip that birds and some other animals take when they move from one climate to another. What am I called?
  - » migration
- I am a cold-blooded animal that has rough, scaly skin. What am I?
  - » a reptile
- I am a vertebrate animal whose body is covered in feathers, has wings for flying, and lays eggs in a nest I make for my young. What am I?
  - » a bird
- I am an animal group that has hair or fur. The females in this group give birth to live babies and make milk in their bodies to feed their young. What animal group am I?
  - » mammals

## **Unit-Related Trade Book or Student Choice**

### **Materials:** Trade book

- Read an additional trade book to review a particular concept; refer to the books listed in the domain introduction. You may also choose to have students select a Read-Aloud to be heard again.
- If students listen to a Read-Aloud a second time, you may wish to have them take notes about a particular topic. Be sure to guide them in this important method of gathering information. You may wish to model how to take notes, construct an outline, etc.

# Unit Assessment

## PRIMARY FOCUS OF LESSON

### Language

Student will use conventional spelling patterns when adding the suffix –es to root words. [L.3.2e]

### Reading

Students will read on-level stories with purpose and understanding [RF.3.4a]

### Foundational Skills

Students will read with sufficient accuracy and fluency to support comprehension. [RL.3.4]

## FORMATIVE ASSESSMENT

### Activity Page 16.1

**Spelling Assessment** Use conventional spelling patterns. [L.3.2e]



### Digital Assessment


To access the digital assessment, please log on to Amplify and assign the assessment to your students.





**Teacher Presentation Screens:**  
all lessons include slides

## LESSON AT A GLANCE

|   | Grouping Recommendations   | Time    | Materials  |
|---|--|---------|--|
| <b>Language (25 min.)</b>               |  |         |  |
| Spelling Assessment                     | Whole Group  | 25 min. | <input type="checkbox"/> Activity Page 16.1<br><input type="checkbox"/> pens |
| <b>Reading (50 min.)</b>                |  |         |  |
| Student Skills Assessment               | Independent  | 50 min. | <input type="checkbox"/> Student Assessment Page 2.1                         |
| <b>Reading (20 min.)</b>                |  |         |  |
| Small Group: Remediation                |  <b>Small Group</b> | 20 min. | <input type="checkbox"/> <i>Rattenborough's Guide to Animals</i>             |
| <b>Foundational Skills (25 min.)</b>    |  |         |  |
| Optional Fluency Assessment: "Piranhas" | Independent  | 25 min  | <input type="checkbox"/> Student Assessment Page 2.2                         |

## ADVANCE PREPARATION

### Reading

- Predetermine small groups for Small Group: Remediation.

### Note to Teacher

For the Student Skills Assessment, students will not read out of their Readers but rather from Student Assessment Page 2.1, where the selections have been printed.

## Lesson 16: Unit Assessment

## Language



## SPELLING ASSESSMENT (25 MIN.)

- Have students turn to Activity Page 16.1 for the spelling assessment.
- If you would like to have students use pens, this is the time to pass them out.
- Call out each word one at a time in the following manner: say the word, say a sentence with the word in it, and then say the word again.
- Tell students that, at the end, you will go back through the list once more.

|              |                                     |
|--------------|-------------------------------------|
| 1. puppy     | 8. dry                              |
| 2. penny     | 9. hurry                            |
| 3. study     | 10. marry                           |
| 4. carry     | <b>Challenge Word:</b> <i>along</i> |
| 5. butterfly | <b>Challenge Word:</b> <i>put</i>   |
| 6. lady      |                                     |
| 7. bunny     |                                     |

- After you have called out all of the words, including the Challenge Words, go back through the list slowly, reading each word once more.
- Ask students to write the following sentence as you dictate it:
  - *The lady wants to see butterflies and a bunny.*
- Then, ask students to add -es to each of the root words. Tell students not to add the suffix to the Challenge Words.
- After students have finished, collect pens, if used.
- Tell students that you will now show them the correct spelling for each word so that they can correct their own work using a pencil.
- Say and write each word on the board, instructing students to correct their work by crossing out any incorrect spelling, then copying and writing the correct spelling next to it.

## Activity Page 16.1



- Continue through all the words and then onto the dictated sentence.

**Note:** At a later time today, you may find it helpful to use the template provided at the end of this lesson to analyze students' mistakes. This will help you to understand any patterns that are beginning to develop or that are persistent among individual students.

## Lesson 16: Unit Assessment

# Reading



### STUDENT SKILLS ASSESSMENT (50 MIN.)

- Have students tear out Student Assessment Page 2.1.
- Tell students they will read two selections printed on Student Assessment Page 2.1. (They will not need their Readers.)
- Tell students that should they feel tired, it's a good idea to take a short, personal break. Explain that they need to respect the others in the classroom and stay seated, while quietly looking up to the ceiling, stretching their shoulders, and taking a deep breath or two.
- Tell students they should go right on to the second selection once they finish the first selection.
- Encourage students to do their best.
- Once students finish the assessment, encourage them to review their papers, rereading and looking over their answers carefully.
- Again, explain the necessity of respecting that not all classmates will finish at the same time, and, if they finish and have checked their papers, they should remain quiet for others to finish.

Student  
Assessment Page 2.1



## Lesson 16: Unit Assessment

# Reading



### SMALL GROUP: REMEDIATION (20 MIN.)

#### Small Group

- While working with students in small groups, please remember to choose activities that fit the needs of your students at the time.
  - **Small Group 1:** Work with these students on any weak areas that were exhibited on the assessment. You may wish to use Pausing Point activities with these students.
  - **Small Group 2:** Ask these students to read additional chapters at the end of *Rattenborough's Guide to Animals* or *More Classic Tales*. Alternately, you may ask students to complete any appropriate activities listed in the Pausing Points.

## Lesson 16: Unit Assessment

# Foundational Skills



### OPTIONAL FLUENCY ASSESSMENT: "PIRANHAS" (25 MIN.)

- You may wish to assess students' fluency in reading using any of the supplemental chapters that they have not yet read. Recording and Scoring Sheets have been specifically included for "Piranhas."

#### Instructions

- Turn to the text copy of "Piranhas" at the end of this lesson. This is the text copy students will read aloud.
- Ask the student to remove Student Assessment Page 2.2. You will use this worksheet to mark a running record as you listen to the student read orally.
- Tell the student that you are going to ask them to read the selection aloud. Explain that you are going to keep a record of the amount of time it takes them to read the selection. Please also explain to the student that they should not rush but rather read at their own regular pace.

Student  
Assessment Page 2.2



- Begin timing when the student reads the first word of the selection. If you are using a watch, write the exact Start Time, in minutes and seconds, on your record page. If you are using a stopwatch, you do not need to write down the Start Time since the stopwatch will calculate Elapsed Time. As the student reads the selection, make a running record on the copy with the student's name using the following guidelines:

|                               |   |
|-------------------------------|---|
| <b>Words read correctly</b>   | No mark is required.  |
| <b>Omissions</b>              | Draw a long dash above the word omitted.  |
| <b>Insertions</b>             | Write a caret (^) at the point where the insertion was made. If you have time, write down the word that was inserted. |
| <b>Words read incorrectly</b> | Write an "X" above the word.  |
| <b>Substitutions</b>          | Write the substitution above the word.  |
| <b>Self-corrected errors</b>  | Replace original error mark with an "SC."   |
| <b>Teacher-supplied words</b> | Write a "T" above the word (counts as an error).  |

- When the student finishes reading the selection, write the exact Finish Time in minutes and seconds on your record sheet. Alternatively, if you are using a stopwatch, simply write down the Elapsed Time in minutes and seconds. In the interest of time, ask students to read only the first three paragraphs of text in either chapter. (Five minutes should be enough time to get a measurement on most students.) If the student does not read to the end, draw a vertical line on the record sheet to indicate how far they read. Also write down either the Finish Time or the Elapsed Time. After the student finishes reading orally, you may direct them to finish reading the remainder of the selection silently; you may also assess comprehension by having students answer the following comprehension questions orally.

1. **Literal.** Where do piranhas live?

» in South America in rivers, like the Amazon River, and lakes

2. **Literal.** What makes piranhas dangerous fish?

» They have sharp teeth, they can bite much stronger than a great white shark, and they tear out a chunk of flesh when they bite.

3. **Literal.** Describe a piranha's teeth

» They are razor-sharp and shaped like triangles.

4. **Literal.** Why might people think piranhas are always attacking people?

» Some scary movies make it seem that way.

5. **Literal.** What does the male piranha do for the eggs?

» guards them until they hatch

- Repeat this process for additional students. Scoring can be done later, provided you have kept running records and jotted down either the Elapsed Time or the Start Time and the Finish Time.

### **Guidelines for Calculating W.C.P.M. Scores**

- If the reading was fairly accurate (< 10 uncorrected errors), you can get a rough (and easy) estimate of a student's W.C.P.M. score simply by noting the time and looking at the chart on Student Assessment Page 2.2.
- To calculate a student's exact W.C.P.M. score, use the information you wrote down on the record sheet and follow the steps described below. The steps are also shown in graphic form on Student Assessment Page 2.2. You will probably find it helpful to have a calculator available.
- First, complete the Words section of Student Assessment Page 2.2.
- Count Words Read. This is the total number of words that the student read or attempted to read, up to the point where they stopped. It includes words that the student read correctly as well as words that the student read incorrectly or skipped over. If the student attempted to read the whole selection, use 344 words total. If the student did not finish the selection, you will need to count the number of words that the student actually attempted to read. Write the count for Words Read in the matching box on Student Assessment Page 2.2.
- Count the Uncorrected Mistakes noted in your running record. This includes words read incorrectly, omissions, substitutions, and words that you had to supply. Write the total in the box labeled Uncorrected Mistakes on Student Assessment Page 2.2. (A mistake that is corrected by the student is not counted as a mistake; the student is penalized for the time they lost making the correction, but not for the initial mistake.)
- Subtract Uncorrected Mistakes from Words Read to get Words Correct.
- Next, complete the Time section of the activity page.

- Calculate Elapsed Time in minutes and seconds. (If you used a stopwatch, this should already be done for you. Skip to the next step.) If you used a watch and recorded start and stop times, you will need to subtract the Start Time from the Finish Time to calculate the Elapsed Time. Subtract seconds from seconds and then minutes from minutes. Calculate Time in Seconds. Multiply the number of minutes by 60 to convert minutes to seconds, and then add the number of seconds.
- Next, complete the W.C.P.M. section of the worksheet.
- Divide Words Correct by Time in Seconds. Then multiply by 60 to get Words Correct Per Minute (W.C.P.M.).
- As you evaluate W.C.P.M. scores, here are some factors to consider:
  - It is normal for students to show a wide range in fluency and in W.C.P.M. scores. However, a major goal for Grade 3 students is to read with sufficient fluency to ensure comprehension and independent reading of school assignments in subsequent grades. Exact fluency targets vary from state to state; the national mean calculated by Hasbrouck and Tindal in 2017 for Fall of Grade 3 was 83 W.C.P.M.
  - A student's W.C.P.M. score can be compared with the scores of other students in the classroom (or grade level) and also with the national fluency norms for Fall of Grade 3 obtained by Hasbrouck and Tindal. Students whose scores are below the 25th percentile (59 W.C.P.M.) are experiencing serious problems in reading fluently.

## Piranhas

Piranhas are meat-eating fish with razor-sharp teeth. If an animal goes into a pond where these fish are, the piranhas may attack. A large school of hungry piranhas can kill a large animal very quickly.

Piranhas live in South America. They are found in the Amazon River and in other rivers and lakes.

Like most fish, piranhas lay eggs. The female lays up to five thousand eggs at one time. The male piranha guards the eggs until they hatch. However, after they hatch, the baby piranhas are on their own.

A typical piranha is five to ten inches long. It might weigh two pounds.

A piranha has a single row of teeth. These teeth are shaped like triangles and are very sharp. In fact, they are so sharp that, in the past, some native people used them to make weapons and tools.



Piranhas have very strong jaws. Pound for pound, they are stronger biters than great white sharks!

Here is how scientists measure bite strength. First, they weigh the animal. Next, they allow the animal to bite a special tool that measures how strong its bite is. Finally, they divide the bite strength by the animal size.

A great white shark has a bite force about equal to its body. It might weigh five thousand pounds, and it might bite with a force of about five thousand pounds. A piranha is much smaller. It might weigh two pounds. But it can bite with sixty pounds of force. Sixty divided by two is thirty. That means the piranha's bite strength is about thirty times as strong as a great white shark.

A piranha's bite hurts a lot, but what makes it even worse is what comes next. Once the piranha has bitten down, it spins away from its prey, tearing out a chunk of flesh. Ouch!

Piranhas have been known to attack humans. But such attacks are not common. There are some scary movies that make it sound like piranhas are always attacking people. We know now that this is just not true.

Spelling Analysis Chart

Student Name

1. puppy

2. puppies

3. penny

4. pennies

5. study

6. studies

7. carry

8. carries

9. butterfly

10. butterflies

11. lady

12. ladies

13. bunny

14. bunnies

15. dry

16. dries

17. hurry

18. hurries

19. marry

20. marries

**Challenge Word:** *along*

**Challenge Word:** *put*

## SPELLING ANALYSIS DIRECTIONS

### Unit 2, Lesson 16

- Students are likely to make the following errors: not changing the 'y' to 'i' before adding the -es.
- Leaving the 'y' in place and adding -ies.
- While either of the above student-error scenarios may occur, you should still be aware that misspellings may be due to many other factors. You may find it helpful to record the actual spelling errors that the student makes in the analysis chart. For example: Is the student consistently making errors on specific vowels? Which ones?
- Is the student consistently making errors on double consonants?
- Is the student consistently making errors at the end of the words?
- Is the student consistently making errors on particular beginning consonants?
- Did the student write words for each feature correctly?
- Also, examine the dictated sentence for errors in capitalization and punctuation.

# Teacher Resources

**In this section, you will find:**

- Glossary
- Activity Book Answer Key

# Glossary

## A

**activist**—a person who strongly believes in changing something and works hard to try to make change happen

**adapt**—to change

**amphibian**—an animal that can live on land and in water (**amphibians**)

**aquatic**—living, growing, or found in water

**attract**—to draw or pull toward a person, place, or thing

## B

**behavior**—how a person or animal acts

## C

**calcified**—hardened, especially by deposits of the mineral known as calcium salts

**carnivore**—an animal that mainly eats meat (**carnivores**)

**cavity**—a hollow space within a body, a bone, or an organism

**characteristic**—something that makes a person, thing, or group different (**characteristics**)

**classify**—to put things into groups based on similarities or type (**classifying, classified**)

**climate**—the usual weather patterns in a particular area

**cold-blooded**—having a body temperature that changes with the temperature of the environment

**column**—a set of objects arranged in a vertical, or up and down, arrangement; a supporting base

**communicate**—to share information with others through language, writing, or gestures

**constant**—not changing very much and staying steady and even

## D

**delta**—a triangular area found where a stream or river flows into a bigger body of water and deposits mud and sand in a fan-shaped area (**deltas**)

**diaphragm**—a layer of muscle that separates the upper and lower body sections in mammals and creates a space for the lungs to expand when they breathe in oxygen

## E

**effectively**—well done with purpose and success

**exoskeleton**—the tough, rigid, outer covering that invertebrate animals have for protection and to keep from drying out

## F

**feather**—one of many light, soft parts that covers a bird's skin (**feathers**)

**fin**—a bony spine covered with skin that sticks out from a fish's body and helps it swim (**fins**)

**flock**—a group of birds (**flocks**)

## G

**gill**—one of a pair of organs fish use to breathe underwater

**glide**—to move smoothly and continuously

## H

**habitat**—a place where plants and/or animals live and grow (**habitats**)

**herbivore**—an animal that only eats plants (**herbivores**)

**hibernate**—to spend a season with slow or no movement of body functions (**hibernating**)

**huddle**—to crowd or squeeze together in a group

---

**I**

**inject**—to force in fluid, usually by piercing the skin (**injects**)

**insulation**—material that separates an area in order to keep in a form of energy

**intelligent**—smart

**internal**—on the inside or center of an object or organism

**invertebrates**—animals that do not have a backbone

---

**K**

**kingdom**—a major group into which all living things are classified (**kingdoms**)

---

**L**

**language**—words used to communicate

**life cycle**—the stages through which a living thing goes from birth until death

---

**M**

**mammal**—an animal that usually gives birth, has hair, feeds milk from its own body to its young, and is warm-blooded

**mammary glands**—milk-producing organs found in female mammals

**marine**—related to the sea

**metabolism**—the process where food is changed to energy in cells of the body

**migrate**—to move from one place to another

**molt**—to shed skin (**molting, molted**)

---

**N**

**nectar**—sweet liquid that comes from flowers

**nerves**—parts of the body that send messages to and from the brain through the spinal cord

**nest**—a structure formed and used by animals for laying and hatching eggs

**nocturnal**—active during the night

---

**O**

**observe**—to watch closely and carefully

**omnivore**—an animal that eats both plants and meat (**omnivores**)

**orchestra**—a group of musicians who play instruments together

**oxygen**—a colorless gas that animals must breathe to stay alive

---

**P**

**plumage**—birds' feathers

**predator**—an animal that hunts other animals for food (**predators**)

**primate**—a mammal such as a monkey, ape, or human

**primatologist**—a scientist who studies primates

---

**R**

**reproduction**—the process that lets a plant or animal produce offspring, or young, of their own kind

**reptile**—a cold-blooded animal with tough, scaly skin that uses its surroundings to control its body temperature

---

**S**

**scale**—a thick, small disc on the outside of the bodies of some animals, such as fish and reptiles (**scales**)

**school**—a large group of fish or other aquatic animals that swim together (**schools**)

**secrete**—to seep out from the skin (**secretes**)

**sensitive**—able to feel something very quickly or intensely

**shed**—to drop, cast off, or separate from something

**sonar**—a way to find things underwater using sound waves

**spine**—backbone

**stately**—grand or impressive in size or manner

**suction cup**—a round, shallow cup that can stick to a surfaces (**suction cups**)

**survive**—to continue to live (**survives**)

---

## T

**tadpole**—the early form of frogs and toads that has gills and a tail, but no legs (**tadpoles**)

**temperature**—the measurement of how hot or cold something is

**transformation**—changing appearance

---

## V

**venom**—poison produced by an animal used to harm or kill another animal

**venomous**—having or producing poisonous fluid

**vertebrates**—animals that have a backbone

---

## W

**warm-blooded**—being able to control internal body temperature by making heat within the body and having ways to cool the body down when needed

---

## Z

**zoologist**—a scientist who studies animals and their characteristics

Activities with widely variable or subjective responses may not be reprinted in this Appendix.

| Animals      | What I already know | Time | Observation       |
|--------------|---------------------|------|-------------------|
| Fishing cats |                     |      | Answers may vary. |
|              |                     |      | Answers may vary. |
|              |                     |      | Answers may vary. |
|              |                     |      | Answers may vary. |
|              |                     |      | Answers may vary. |

[illegible]



NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

2.1

Activity Page

### Living Things: Text Features Scavenger Hunt

| Text feature      | Is this text feature in the chapter? (yes or no) | Page | Evidence                                    |
|-------------------|--|------|---|
| Table of contents | Answers may vary.                                |      | List two chapters in the table of contents. |
| Heading           | Answers may vary.                                |      | What is the heading?                        |
| Bold print words  | Answers may vary.                                |      | What are the bolded print words?            |
| Photo and caption | Answers may vary.                                |      | What is in the photo? What is the caption?  |

Unit 2 Fur, Fins, and Feathers: Animal Classification

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|          |                   |  |                          |
|----------|-------------------|--|--------------------------|
| Diagram  | Answers may vary. |  | What is the diagram?     |
| Chart    | Answers may vary. |  | What is the chart?       |
| Map      | Answers may vary. |  | What is the map?         |
| Glossary | Answers may vary. |  | What is in the glossary? |

- What four characteristics do all living things have in common?  
Answers may vary, but they should include the following information: create energy from food, have babies or make other living things like themselves, have a life cycle, and change to fit in better with their habitat.
- What text feature from the Reader could help you answer the previous question?  
Answers may vary, but students may say that the photo collages helped them answer.

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Unit 2 Fur, Fins, and Feathers: Animal Classification

- Why did the author write this passage?

Answers may vary, but they should include information about Carolus Linnaeus and his animal classification system.

- Is the author trying to answer, explain, or describe? Explain your answer.

Answers may vary, but they should include information about explaining the animal classification system set up by Carolus Linnaeus.

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Unit 2 Fur, Fins, and Feathers: Animal Classification

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

2.3

Activity Page

### Subject Pronouns and Antecedents

Write the correct pronoun on the blank.

- Beth says that she is happy. (*we, she*)
- The apron needs to be washed because it is dirty. (*it, they*)
- Bananas and apples are good for you because they are full of vitamins. (*they, I*)
- The football players emailed friends because they wanted everyone to come out to the game. (*we, they*)
- Because Randy answered all of the questions correctly, he received a perfect score. (*I, he*)
- My family and I invited neighbors to dinner and we all had a great time. (*we, she*)
- Robert is pouting and not speaking because he is angry. (*she, he*)
- The farmers planted their crops and then they rested. (*she, they*)
- Anne told the class a great story, and then she asked if anyone had questions. (*he, she*)

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10. Mr. Hancher is a new teacher in our school and he is really fun and interesting. (*she, he*)

Write an ending to each sentence using a pronoun to match the bolded pronoun antecedent. Then, answer the question that follows.

Example:

The **doctor** tapped my knee with a rubber hammer and \_\_\_\_\_  
\_\_\_\_\_

(The **doctor** tapped my knee with a rubber hammer and he was happy to see my leg kick.)

What pronoun did you use in the sentence? he

1. The movie filled me with happiness because \_\_\_\_\_  
Answers may vary but should include it.

What pronoun did you use in the sentence? it

2. The **puppies** in the pet shop window looked so pitiful and \_\_\_\_\_  
Answers may vary but should include they.

What pronoun did you use in the sentence? they

3. When **my family** and I get together, \_\_\_\_\_  
Answers may vary but should include we.

What pronoun did you use in the sentence? we

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Unit 2 Fur, Fins, and Feathers: Animal Classification

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

3.1 Activity Page

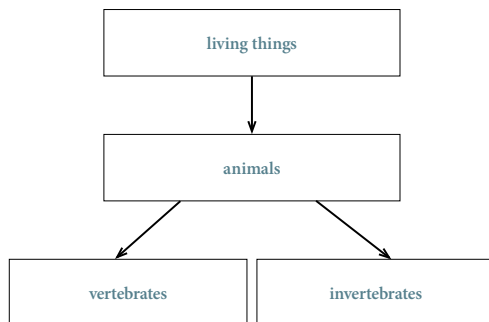
### Vertebrate or Invertebrate Connection

- How are vertebrates and invertebrates alike?  
Answers may vary, but they may include the fact that they are all living things.
- How are vertebrates and invertebrates different?  
Answers may vary, but they may include that vertebrates have a backbone and invertebrates do not have a backbone.
- How are all vertebrates alike?  
Answers may vary, but they may include information about all vertebrates having a backbone or spine.
- How are all invertebrates alike?  
Answers may vary, but they may include information about how invertebrates do not have backbones.

Unit 2 Fur, Fins, and Feathers: Animal Classification

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5. Fill in the chart with the following key words: vertebrates, invertebrates, living things, and animals.



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Unit 2 Fur, Fins, and Feathers: Animal Classification

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

3.2 Activity Page

### Animal Classification Foldable

|  |  |                                   |      |
|--|--|-----------------------------------|------|
| Note: Students will draw a picture in the first book |  | Name:<br>Date:                    |      |
| Habitat:<br>Local animals                            |  | My animal classification foldable |      |
|  |  | Fish                              | Body |
|  |  |                                   |      |
| Habitat:<br>Local animals                            |  | Amphibians                        | Body |
|  |  |                                   |      |
| Habitat:<br>Local animals                            |  | Reptile                           | Body |
|  |  |                                   |      |
| Habitat:<br>Local animals                            |  | Birds                             | Body |
|  |  |                                   |      |
| Habitat:<br>Local animals                            |  | Mammals                           | Body |
|  |  |                                   |      |

Unit 2 Fur, Fins, and Feathers: Animal Classification

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|   |  |
|---|--|
|   |  |
| Cold-blooded or warm-blooded<br>Body design: <i>Answers may vary.</i> | Vertebrate or invertebrate<br>Reproduction: <i>Answers may vary.</i><br>Pattern-breaker: |
| Cold-blooded or warm-blooded<br>Body design: <i>Answers may vary.</i> | Vertebrate or invertebrate<br>Reproduction: <i>Answers may vary.</i><br>Pattern-breaker: |
| Cold-blooded or warm-blooded<br>Body design: <i>Answers may vary.</i> | Vertebrate or invertebrate<br>Reproduction: <i>Answers may vary.</i><br>Pattern-breaker: |
| Cold-blooded or warm-blooded<br>Body design: <i>Answers may vary.</i> | Vertebrate or invertebrate<br>Reproduction: <i>Answers may vary.</i><br>Pattern-breaker: |
| Cold-blooded or warm-blooded<br>Body design: <i>Answers may vary.</i> | Vertebrate or invertebrate<br>Reproduction: <i>Answers may vary.</i><br>Pattern-breaker: |

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Unit 2 Fur, Fins, and Feathers: Animal Classification

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

**3.3** Activity Page

### Compare Two Texts

*Read the short passages. Using a yellow marker, highlight the topics that are the same. Using an orange marker, circle the information that is different.*

| Reading:<br>“Vertebrates or Invertebrates?”   | Read-aloud:<br>“Vertebrate Animals”   |
|---|---|
| <p>Many other animals also are vertebrates. All mammals, reptiles, fish, and birds have a backbone, so they are all vertebrates. They have some type of spinal cord, too.</p> <p>Animals with a backbone come in all different shapes and sizes. Apes, rhinos, horses, rabbits, bats, and, yes, rats and humans, too are all mammals and vertebrates. Lizards, turtles, snakes, and crocodiles are reptiles and vertebrates. Huge sharks and tiny goldfish are vertebrates. Small hummingbirds and large eagles are vertebrates, too.</p> | <p>For today, let's take a glimpse at the backbones of the five animal species to which my five friends belong. We've seen that a hippopotamus has a backbone. Next, let's take a look at one of Ebenezer's fellow egrets. Its backbone, or spinal column, helps it to hold its head up high and protects its spinal cord. Like all egrets, Ebenezer could not live without his backbone. All birds have backbones, or vertebrae.</p> <p>Snakes don't look like they have backbones, do they? Even though snakes slither—or slip and slide along—they absolutely do have backbones! A snake's vertebrae, like Anna Anaconda's, run the length of its body and swing low to the ground as its muscles help it move along the ground or climb up trees. All reptiles have backbones. So, you can't always tell from the outside whether an animal is a vertebrate with a spine (backbone), or whether it's an invertebrate.</p> |

Unit 2 Fur, Fins, and Feathers: Animal Classification

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| Reading:<br>“Vertebrates or Invertebrates?” | Read-aloud:<br>“Vertebrate Animals”  |
|---|--|
|   | <p>How about fish? Would you say fish have a backbone? The answer is yes! All fish have backbones, too, just as reptiles, birds, and mammals do. It's very tricky to see, but if you took an x-ray of its body, you would see that all the other tiny bones that make up the skeleton of the fish are connected to its spine. Paolo told me that even though all fish have backbones, some fish—like sharks and stingrays—have backbones that are made of lighter and more bendable cartilage instead of hard bone, allowing them to be more flexible and travel more quickly.</p> <p>That leaves amphibians. Take a look at my animal friends one more time; pay close attention to the toad next to Tabitha. It's hard to tell when you look at a toad's body that there is a backbone inside! Now tell me—do toads have backbones? Yes, to be sure, they certainly do! Toads are vertebrates, too! All amphibians have backbones! That means that all five of the animals you've seen today are vertebrates. They all have backbones.</p> |

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Unit 2 Fur, Fins, and Feathers: Animal Classification

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

**3.3** Activity Page  
CONTINUED

*Read the short passages. Using a yellow marker, highlight the topics that are the same. Using an orange marker, circle the information that is different.*

| Reading:<br>“Vertebrates or Invertebrates?”  | Read-aloud:<br>“Vertebrate Animals”   |
|--|---|
| <p>But there are many more animals that do not have a backbone. Animals without backbones are called invertebrates. Insects are the largest group in the animal kingdom. Insects are also the largest invertebrates. Insects include flies, wasps, beetles, cockroaches, ladybugs, and butterflies. Other kinds of invertebrates include earthworms and spiders.</p> | <p>Think how many insects there must be on our planet! They make up three quarters of all the species in the animal kingdom! Can you name a few of the many animals in the insect group? Flies, wasps, beetles, cockroaches, ladybugs, and butterflies are all insects. There are surely a lot more species of insects than there are species of amphibians, mammals, birds, fish, and reptiles all put together!</p> <p>Even though insects are by far the largest group of invertebrates, they are not the only invertebrates. Here's another question for you to think about. Close your eyes and pretend you are a taxonomist for a moment. Can you think of any other animals without backbones? Here's a hint: instead of internal vertebrae, these animals have an external, or outer, hard body covering.</p> |

Unit 2 Fur, Fins, and Feathers: Animal Classification

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| Reading:<br>“Vertebrates or Invertebrates?” | Read-aloud:<br>“Vertebrate Animals”   |
|---|---|
|   | <p>The largest group of invertebrates is made up of arthropods. Insects make up the largest group of arthropods. Another large group of arthropods includes arachnids. Spiders are arachnids, and so are ticks, daddy longlegs, and scorpions. Insects have six legs and three body parts. The ant has very long antennae—they almost look like legs! In comparison, arachnids have eight legs and two body parts. Instead of having flexible internal skeletons, all of the arthropods wear a tough exoskeleton, or protective covering, on the outside. I bet you can recognize some of these common examples of insects and arachnids.</p> |

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Unit 2 Fur, Fins, and Feathers: Animal Classification

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

3.4

Activity Page

## Blank Busters

Follow along with your teacher to fill in the blanks with the correct spelling words. The root words are listed in the box below. You will not use a word more than once.

|      |         |        |         |        |
|------|---------|--------|---------|--------|
| hop  | rub     | ship   | grab    | patch  |
| plan | stretch | finish | discuss | submit |

- All the groups submitted their ideas for the science fair to our teacher before the Friday deadline.
- My sister asked, “Will you please rub sunscreen on my back since I can’t reach it?”
- My family is planning a surprise party for my grandfather’s birthday.
- Marcus stretched out my new soccer socks when he borrowed them for practice.
- Mom peeked in my room to be sure I was finishing the last question on my math homework.
- Lisa grabbed her hat and gloves and started walking to the bus stop.

Unit 2 Fur, Fins, and Feathers: Animal Classification

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- My aunt who lives in England is shipping us some clothes that her children can no longer wear.
- Rachel’s mom patched the hole in her skirt so she could wear it again.
- A toad hopped out of the bushes near the drain and onto the sidewalk.
- Our baseball coach wanted to discuss last night’s game during today’s practice.

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Unit 2 Fur, Fins, and Feathers: Animal Classification

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

3.4

Activity Page

CONTINUED

## Blank Busters

Create your own Blank Busters sentences using three words from this week’s spelling list. Do not fill in the blanks—you will do that in class when you bring this back!

Example: My aunt is shipping us some clothes that her children can no longer wear.

| Root Word | -ed       | -ing       |
|-----------|-----------|------------|
| hop       | hopped    | hopping    |
| rub       | rubbed    | rubbing    |
| ship      | shipped   | shipping   |
| grab      | grabbed   | grabbing   |
| patch     | patched   | patching   |
| plan      | planned   | planning   |
| stretch   | stretched | stretching |
| finish    | finished  | finishing  |
| discuss   | discussed | discussing |
| submit    | submitted | submitting |

- Answers may vary.
- 
- 

Unit 2 Fur, Fins, and Feathers: Animal Classification

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Activity Page

## 37

Activity Page

## 39

Activity Page

## 41

## Unit 2 Fur, Fins, and Feathers: Animal Classification

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

5.2

Activity Page

### Fish and Gills: Matching

Draw a line to connect the text feature to the correct picture.

Table of contents

Heading

Bold print words

Photo and caption

Chart

Map

Glossary

Diagram

**Fish**

**G**  
gill—one of a pair of organs fish use to breathe underwater (gills)



*Fish come in many sizes and colors.*

**aquatic animals**



Introduction: Meet Ransborough ..... 1  
Chapter 1: Classifying Living Things ..... 10  
Chapter 2: Warm-Blooded and Cold-Blooded Animals ..... 20  
Chapter 3: Warm-Blooded and Cold-Blooded Animals ..... 30  
Chapter 4: Fish ..... 40  
Chapter 5: Amphibians ..... 50

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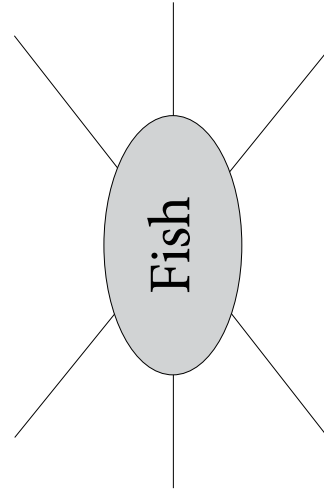
NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

5.3

Activity Page

### Fish Web

Answers may vary.



Unit 2 Fur, Fins, and Feathers: Animal Classification

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### Student Interview

Student 1: \_\_\_\_\_

Which text feature did you find in the Reader? \_\_\_\_\_

What did you learn from this text feature?

Answers may vary.

---

---

---

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Unit 2 Fur, Fins, and Feathers: Animal Classification

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

5.4

Activity Page

### Fish and Gills Exit Slip

My reflection

Name: \_\_\_\_\_

Which text feature did I find in the Reader? \_\_\_\_\_

What did I learn from this text feature?

Answers may vary.

---

---

---

Unit 2 Fur, Fins, and Feathers: Animal Classification

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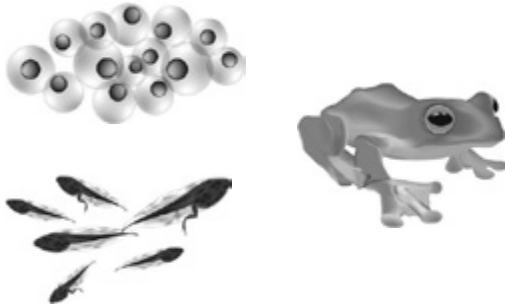
NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

## 6.1 Activity Page

### Common Bond

What do these three pictures have in common?

Answers may vary, but students should identify that these images show stages in the life cycle of a frog.



Unit 2 Fur, Fins, and Feathers: Animal Classification

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NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

## 6.2 Activity Page

### Metamorphosis Sequencing

Write a sentence and then draw a picture to show the correct order in the stages of metamorphosis (of a frog or toad).

First  
First, she will lay her eggs.

Next  
Next, a few hundred toad eggs will hatch into tadpoles.

Then  
Then, the tadpoles will morph, or change, into very different looking creatures, young amphibians, with very different habits.

Last  
Lastly, young amphibians will grow into adult toads.

Unit 2 Fur, Fins, and Feathers: Animal Classification

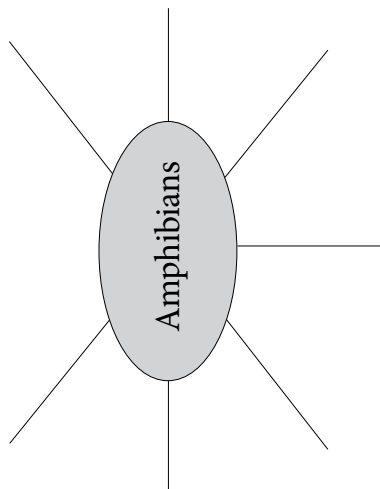
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## 6.3 Activity Page

### Amphibian Web

Answers may vary.



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## 6.4 Activity Page

### Identify Compound Sentences

For each sentence,

- draw a line to separate the subject and predicate
- mark the subject(s) and predicate(s) by writing the letter S above each subject and the letter P above each predicate
- draw two lines under the conjunction and

Then write "Yes" on the line if the sentence is a compound sentence, or write "No" on the line if the sentence is not a compound sentence.

- The students<sup>S</sup> watched a beaver<sup>P</sup> in the river. No
- The chicken<sup>S</sup> sat on the eggs, and<sup>P</sup> then the eggs<sup>S</sup> hatched. Yes
- Jamal<sup>S</sup> likes long novels, and<sup>P</sup> his friend Derek<sup>S</sup> likes to read too. Yes
- Mark<sup>S</sup> and his classmates<sup>S</sup> will write a report on mammals. No
- The class<sup>S</sup> went to the park and<sup>P</sup> the museum. No
- Tim<sup>S</sup> and Bill<sup>S</sup> went to the store, and<sup>P</sup> Bill bought candy. Yes
- The children<sup>S</sup> want salad and<sup>P</sup> spaghetti for dinner. No
- The trip<sup>S</sup> was fun, and<sup>P</sup> Mary<sup>S</sup> enjoyed it. Yes

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7.1

Activity Page

### Frog Scavenger Hunt

Frog Clue Card 1: Where can American green tree frogs live?

southeastern United States

Frog Clue Card 2: Where can poison dart frogs live?

South America

Frog Clue Card 3: How long is an American green tree frog?

two inches long

Frog Clue Card 4: How long is a poison dart frog?

an inch and a half long

Frog Clue Card 5: What color is an American green tree frog?

lime green to yellow

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Frog Clue Card 6: What color is a poison dart frog?

brightly colored

Frog Clue Card 7: What is a distinct characteristic of an American green tree frog?

long toes with suction cups

Frog Clue Card 8: What seeps out of a poison dart frog's skin?

poison

Frog Clue Card 9: Where do American green tree frogs lay their eggs?

in or near the water

Frog Clue Card 10: Where do poison dart frogs take their newly hatched tadpoles?

into the canopy, or tops of trees

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7.2

Activity Page

### Frog Exit Ticket

How are these two texts alike?

Answers may vary, but they may include information that both texts focused on frogs: frogs lay eggs and range in color.

How are these two texts different?

Answers may vary, but they may include information such as that the frogs live in different locations, poison dart frogs secrete poison, tree frogs stay in trees, and so on.

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7.3

Activity Page

### Field Journal

*Today you read about tree frogs and poison dart frogs. If you were a frog researcher, which one would you like to research further? Explain.*

Answers may vary.

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8.1

Activity Page

### Reptile Vocabulary

1. What does nocturnal mean in the following sentence?  
Like Anna, they are **nocturnal** hunters, hunting at night.  
active during the night

2. What does molting mean in the following sentence?  
Reptiles are known for **molting**, or shedding their skin.  
shedding their skin

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8.2

Activity Page

### Field Journal

*Do you think you would want to be a herpetologist some day? Why or why not?*

Answers may vary.

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8.3

Activity Page

### re-: Prefix Meaning “to do again”

*The left-hand side of the table contains words that use the prefix you have been studying. Use the blanks on the right side to record additional words that use the same prefix. Make sure to include the definition for the new words you brainstorm.*

|  |                   |
|--|-------------------|
| <b>refill</b> —(verb) to make something full again         | Answers may vary. |
| <b>reload</b> —(verb) to put things into a container again | Answers may vary. |
| <b>retell</b> —(verb) to report information again          | Answers may vary. |
| <b>rename</b> —(verb) to label something again             | Answers may vary. |

*Write the correct word to complete each sentence.*

|        |        |      |        |
|--------|--------|------|--------|
| retell | reload | redo | review |
|--------|--------|------|--------|

- Robert asked if he could review the program for the concert to see what song would be next.
- Carol asked me to retell the story of how my little brother fell on the playground.
- Ava wanted to reload her pencil box with supplies over winter break.
- Write your own sentence using the one word left in the box.  
Answers may vary but should include the word redo.

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### pre-: Prefix Meaning “before”

*The left-hand side of the table contains words that use the prefix you have been studying. Use the blanks on the right side to record additional words that use the same prefix. Make sure to include the definition for the new words you brainstorm.*

|  |  |
|--|--|
| <b>precook</b> —(verb) to prepare and heat food before   |  |
| <b>preset</b> —(verb) to arrange before                  |  |
| <b>preselect</b> —(verb) to choose before                |  |
| <b>prepay</b> —(verb) to give money for something before |  |

*Write the correct word to complete each sentence.*

|           |          |         |        |
|-----------|----------|---------|--------|
| preselect | preprint | preheat | prepay |
|-----------|----------|---------|--------|

- Last year, My family was able to prepay for our summer football camp so we don't owe anything this year.
- Lucy decided to preprint her boarding pass for the flight so she could go right through security at the airport.
- When I was in my sister's wedding, I got to preselect the color of my dress several months in advance.
- Write your own sentence using the one word left in the box.  
Answers may vary but should include the word preheat.

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8.4

Activity Page

### Blank Busters

Follow along with your teacher to fill in the blanks with the correct spelling words. The root words are listed in the box below. You will not use a word more than once.

|       |       |           |      |         |
|-------|-------|-----------|------|---------|
| smile | rake  | file      | vote | dine    |
| quote | raise | translate | tire | prepare |

- The chef prepared a special dish for the night with fish and pasta.
- When we got home from school, my neighbor was in the yard raking leaves into piles.
- On Election Day, Jada voted before she went to work.
- When Ms. Taylor asked for volunteers to help with the math workshop, she saw four students raise their hands.
- Some puppies tire easily from running and playing and need naps, just like people.
- Kevin translated his Spanish homework for me so he could tell me what he learned.

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- I saw the baby smile when his mother leaned over to say hello to him.
- Darcy filed the letter she received about science camp in a folder with other science camp documents so they would all be in one place.
- Grandma said we would be dining at three o'clock on Sunday afternoon.
- My sister can quote most lines from her favorite movie.

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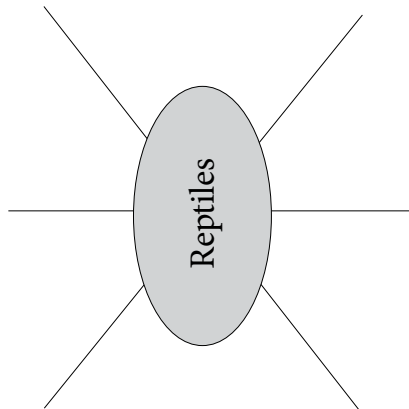
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9.1

Activity Page

### Reptile Web

Answers may vary.



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9.2

Activity Page

### Blank Busters

Create your own Blank Busters sentences using three words from this week's spelling list. Do not fill in the blanks—you will do that in class when you bring this back!

Example: When we got home from school, Dad was in the yard raking leaves into piles.

| Root Word | -ed        | -ing        |
|-----------|------------|-------------|
| smile     | smiled     | smiling     |
| rake      | raked      | raking      |
| file      | filed      | filing      |
| vote      | voted      | voting      |
| dine      | dined      | dining      |
| quote     | quoted     | quoting     |
| raise     | raised     | raising     |
| tire      | tired      | tiring      |
| translate | translated | translating |
| prepare   | prepared   | preparing   |

- Answers may vary.
- 
- 

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Bird Watching

Description of bird (color):  
Location:  
Observation:  
Notes:

Answers may vary.

Description of bird (color):  
Location:  
Observation:  
Notes:

Answers may vary.

Description of bird (color):  
Location:  
Observation:  
Notes:

Answers may vary.

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Bird Vocabulary

1. What does glide mean in the following sentence?  
His long, broad wings are built so that he can **glide**, or move smoothly and continuously.  
move smoothly or continuously

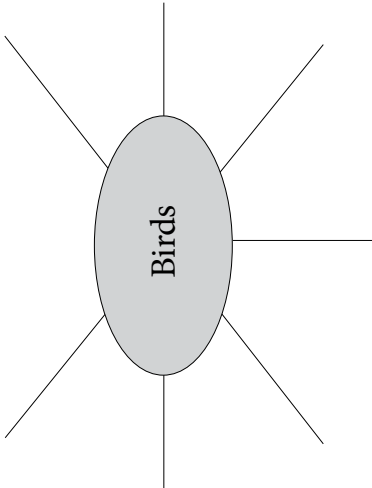
2. What does nest mean in the following sentence?  
Most birds prepare a **nest**, or shelter for their young, using whatever materials are available to them in nature.  
shelter for young

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Bird Web

Answers may vary.



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NAME: \_\_\_\_\_ DATE: \_\_\_\_\_ 10.5 Activity Page

Field Journal

What did you learn about birds today? Explain two new things you learned about birds.

Answers may vary.

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|             |      |               |
|-------------|------|---------------|
| NAME: _____ | 11.1 | Activity Page |
| DATE: _____ |      |               |

## Bird Text Features

Text feature in the Reader: \_\_\_\_\_

What I learned from this text feature about birds: Answers may vary.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Text feature in the Reader: \_\_\_\_\_

What I learned from this text feature about birds: Answers may vary.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Text feature in the Reader: \_\_\_\_\_

What I learned from this text feature about birds: Answers may vary.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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[illegible]

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11.3

Activity Page

## Object Pronouns

me

you

him

her

it

us

them

*Rewrite the sentence, replacing the underlined word or words with an object pronoun from the box.*

1. The woods were full of the noises of bears, coyotes, and deer.

The woods are full of the noises of them.

2. Grandma called my sister and me to come in the house for lunch.

Grandma called us to come in the house for lunch.

3. The history of the 18th century is interesting to Bonnie.

The history of the 18th century is interesting to her.

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4. The beautifully wrapped box seemed to invite all of us to look inside the box.  
The beautifully wrapped box seemed to invite all of us to look  
inside it.  

---

---
5. I spoke to my friends and asked them to come with (the person speaking).  
I spoke to my friends and asked them to come with me.  

---

---
6. When Ned joined our class, we couldn't wait to get to know Ned.  
When Ned joined our class, we couldn't wait to get to know  
him.  

---

---

NAME: \_\_\_\_\_  
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12.1Activity Page

Text Structures

Read the sentences below. Circle the text structure clue word in the sentence. On the line, write compare if the sentence is comparing two or more things or contrast if the sentence is contrasting two or more things.

1. The kangaroo,like the opossum, is part of a group of mammals called marsupials.

compare

2. The duck-billed platypus is unlike other mammals because it lays eggs.

contrast

3. Remember learning that birds' beaks may provide clues to their diets? The same is true of mammals' mouths.

compare

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12.2Activity Page

Compare Two Texts

Write the main ideas from each text. Draw lines to show points that are related.

| "Mammals: Live-Bearing Milk Producers" | "Mammals"         |
|--|-------------------|
| Answers may vary.                      | Answers may vary. |

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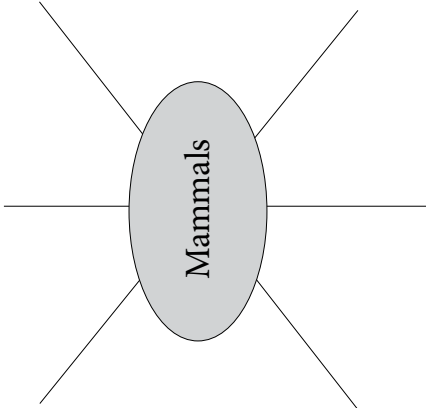
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12.3Activity Page

Mammal Web

Answers may vary.



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13.1Activity Page

Taking Notes on Jane Goodall

Jane Goodall: Video Clip

Jane Goodall: Reading

|                   |                   |
|-------------------|-------------------|
| Answers may vary. | Answers may vary. |
| Answers may vary. | Answers may vary. |
| Answers may vary. | Answers may vary. |
| Answers may vary. | Answers may vary. |

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13.2

Activity Page

Jane Goodall: Main Idea and Supporting Details

Main idea:

Answers may vary, but they may include that Jane Goodall studies primates.

Supporting detail:

Answers may vary.

Supporting detail:

Answers may vary.

Supporting detail:

Answers may vary.

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13.3

Activity Page

Animal Report

Write your topic sentence in the first rectangle to introduce your animal and its group. Choose three supporting details to write in the next three rectangles to support or expand your topic sentence. Write your concluding sentence in the last rectangle to conclude your paragraph.

Topic Sentence

Answers may vary.

Supporting Detail #1

Answers may vary.

Supporting Detail #2

Answers may vary.

Supporting Detail #3

Answers may vary.

Concluding Sentence

Answers may vary.

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14.1

Activity Page

Text Feature Search

Take a picture walk through "Scientists Who Classify Animals" and make a prediction after each text feature listed below. What information do you think you will learn from each text feature listed? After reading, go back and note if your prediction was true or false. Finally, write a corrected statement for each false prediction.

| Text features     | Before reading prediction | After reading (true or false) | Corrected prediction |
|-------------------|---------------------------|-------------------------------|----------------------|
| Heading           | Answers may vary.         | Answers may vary.             | Answers may vary.    |
| Bold print words  | Answers may vary.         | Answers may vary.             | Answers may vary.    |
| Photo and caption | Answers may vary.         | Answers may vary.             | Answers may vary.    |
| Glossary          | Answers may vary.         | Answers may vary.             | Answers may vary.    |

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14.2

Activity Page

Questions and Answers

|  |  |
|--|--|
| 1: Question <div>Answers may vary.</div> | 2: Answer <div>Answers may vary.</div> |
| 3: Question <div>Answers may vary.</div> | 4: Answer <div>Answers may vary.</div> |
| 5: Question <div>Answers may vary.</div> | 6: Answer <div>Answers may vary.</div> |
| 7: Question <div>Answers may vary.</div> | 8: Answer <div>Answers may vary.</div> |

Additional questions:

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

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14.3

Activity Page

**Informational Writing**

Write your working title on the top line. Write the second draft of your informational paragraph on the lines below.

Answers may vary.

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15.3

Activity Page

**Informational Writing**

Write your working title on the top line. Write the second draft of your informational paragraph on the lines below.

Answers may vary.

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146 (6A-1): CKF Staff; 146 (6A-2): (left) Shutterstock, (right) CKF Staff; 147 (6A-3): (backgrounds) Shutterstock, (illustrations) CKF Staff; 148 (6A-4): Shutterstock; 148 (6A-5): Shutterstock; 150 (6A-6): Shutterstock; 156 (The life cycle of a frog or toad): Shutterstock, CKF Staff; 157 (Bottom: A young amphibian leaving the pond for land Top: The life cycle of a frog or toad): Shutterstock, CKF Staff; 158 (This toad may be preparing to hibernate for the winter): Shutterstock; 175 (An American green tree frog): Shutterstock; 176 (Tree frog's long toes with suction): Shutterstock; 178 (American green tree frog is nocturnal): Shutterstock; 179 (Tree frog in Mexico and Central America): Shutterstock; 182 (Sapphire blue species of poison dart frog): Public Domain; 183 (Poison dart frog): Cliff/Flickr via CC BY 2.0; 183 (Poison dart frogs brightly colored skin): Public Domain; 184 (Strawberry Poison-dart Frog): Public Domain; 202: (Rainforest with piranha) CKF Staff; 205 (Geckos, chameleon, iguana, Komodo dragon): Shutterstock; 206 (Alligator and crocodile): Shutterstock; 207 (Reptile scales): Shutterstock; 209 (Frog, snake eggs): Shutterstock; 223, 228 (Crocodiles, turtles, snakes, and lizards): Shutterstock; 224, 229 (Rattlesnake, Copperhead, Water Moccasin): Shutterstock; 225, 231 (Snakeskin): Shutterstock; 238: Amplify Staff; 239: Shutterstock; 243 (10A-1): CKF Staff; 243 (10A-2): CKF Staff; 244 (10A-3): CKF Staff; 244 (10A-4): (background) Shutterstock, (Rattenborough) CKF Staff; 245 (10A-5): Shutterstock; 246 (10A-6): (background) Shutterstock, (top left crane) CKF Staff; 246 (10A-7): Shutterstock; 247 (10A-8): Shutterstock; 247 (10A-9): (illustration) CKF Staff, (photographs) Shutterstock; 248 (10A-10): (illustration) CKF Staff, (photographs) Shutterstock; 249 (10A-11): CKF Staff; 249 (10A-12): Shutterstock; 250 (10A-13): Shutterstock; 267 (Different birds): Shutterstock; 268 (Wings and



feathers): Shutterstock; 269 (Different food): Shutterstock; 281 (12A-1): CKF Staff; 282 (12A-2): Shutterstock; 282 (12A-3): (background) Shutterstock, (Rattenborough) CKF Staff; 283 (12A-4): Shutterstock; 283 (12A-5): Shutterstock; 284 (12A-6): Shutterstock; 284 (12A-7): Shutterstock; 285 (12A-8): Shutterstock; 285 (12A-9): Shutterstock; 286 (12A-10): Shutterstock; 287 (12A-11): Shutterstock; 292 (Mammals): Shutterstock; 294 (Dolphins): Shutterstock; 295 (Bats): Shutterstock; 296 (Duck-billed platypus): Shutterstock; 306 (Jane Goodall): Shutterstock; 307 (Chimpanzees): Shutterstock; 308 (Plant stem): Shutterstock; 309 (Activist): Shutterstock; 323 (Aristotle): Shutterstock; 324 (Which animals feed babies milk) Shutterstock; 325 (If you were a zoologist): Shutterstock; 331 (Sonoran Desert): CKF Staff; 331 (South American Rainforest): CKF Staff; 332 (Alpine Mountains): CKF Staff; 332 (Ganges Delta): CKF Staff; 333 (Savanna): CKF Staff; 333, 334 (Coral reef): CKF Staff; 335 (Antarctic ice shelf): CKF Staff; 1.3: CKF Staff; 5.2: Shutterstock, CKF Staff; 6.1: CKF Staff

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