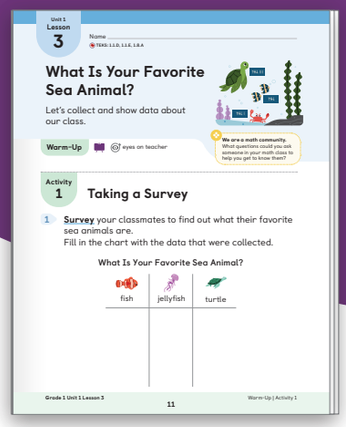
Unit 1
Lesson
3

Student Edition pages and Presentation Screens support learning in this lesson.



What Is Your Favorite Sea Animal?

Collecting and Organizing Data

Let's collect and show data about our class.

Key Concepts

Today's Goals

1. **Goal:** Collect data and organize representations of survey data.
2. **Language Goal:** Explain ways to organize and represent data so that the amount in each category is clear. **(Listening and Speaking)** ELPS 1.B, 2.C, 2.E
3. **Language Goal:** Explain how data in a tally chart can be interpreted. **(Listening and Speaking)** ELPS 1.B, 2.C, 2.E

Connections and Coherence

Students use a **survey** to gather data about their classmates' favorite sea animals to represent the data in their own way in the chart provided. They are then introduced to a new representation, the *tally chart*, which uses *tally marks* to represent the data. They compare the 2 representations, one using *tally marks* and another using students' names, to recognize that using tally marks in groups of 5 in a *tally chart* is helpful when counting to know how many are in each category. Students then participate in a **Gallery Tour** to deepen their understanding of organizing and representing data in the tally charts by interpreting the data and explaining how they know. **(TEKS 1.1.D, 1.1.E)**

Prior Learning

In Lesson 2, students sorted shape cards into 3 categories and created representations to show how many in each category.

Future Learning

In Lesson 4, students will create a picture graph and a bar-type graph and explain how to determine what other information is needed.

Integrating Rigor in Student Thinking

- Students develop their **conceptual understanding** of how to collect and represent data to interpret data.

Vocabulary

New Vocabulary

survey

Review Vocabulary

data

category

sort

TEKS

Addressing

1.8.A

Collect, sort, and organize data in up to three categories using models/representations such as tally marks or T-charts.

Also Addressing: **1.5.A**

Math Process Standards: 1.1.D, 1.1.E, 1.1.F

ELPS: 1.B, 1.C, 2.B, 2.C, 2.E, 2.F, 3.E, 3.F

Building On

K.8.A

K.2.B

K.2.C

Building Math Identity

We are a math community.
What questions could you ask someone in your math class to help you get to know them?

Invite students to reflect on this question as they complete this lesson

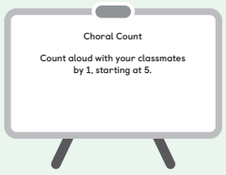
Lesson at a Glance 60 min

TEKS: 1.1.D, 1.1.E, 1.1.F, 1.5.A, 1.8.A

Warm-Up Fluency

Whole Class | 10 min

Students use the **Choral Count** routine, in which they count as a class by 1, starting at 5 and ending at 20. Students may notice patterns in the count sequence that will be helpful to count on from 5 when counting the tally marks. **(TEKS 1.1.F)**



Activity 1

Pairs | 15 min

Students take a survey to gather information about the class's favorite sea animals by using the **Mix and Mingle** routine. Students collect and represent the data however they want in the chart provided, and then learn more about the tally marks in the Connect.

Materials: Activity 1 PDF, *Aquarium,* Activity 1 PDF, *What Is Your Favorite Sea Animal? Words to Describe Organizing and Representing Data* chart (from Lesson 1)

Activity 2

Pairs | 15 min

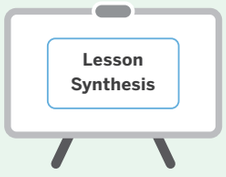
Students participate in a **Gallery Tour** to look at the pre-made tally charts about different classes' favorite sea animals. They describe how many in each category, identify each class's favorite sea animal, and explain how they know.

Note: The Student Edition is not required for this activity.
Materials: Activity 2 PDF

Synthesis

Whole Class | 5 min

Students review and reflect on representing and organizing data in a tally chart using tally marks to show how many in each category.

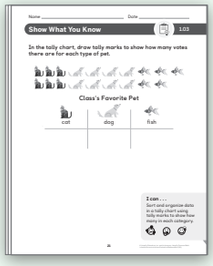


Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by organizing and representing a set of survey data in a tally chart.

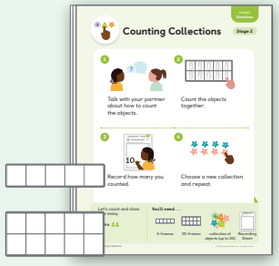
Materials: *Show What You Know* PDF



Center Fluency

Pairs | 15 min

Students are introduced to the Center, *Counting Collections*, *Up to 20*, in which they count collections of up to 20 objects and represent how they counted.



Math Language Development

EB Emergent Bilinguals

Consider using the *Math Language Development Resources* with **Activity 2, Monitor** to support math language acquisition.

- ✓ Cognates
- ✓ Visuals
- ✓ Sentence frames and word bank

ELPS 1.B, 1.E, 2.B, 2.C, 2.D, 2.E, 2.F

Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to spoken English and **speak** using their primary languages, gestures, and single words or short phrases.	Students **listen** to spoken English and **speak** using short phrases or simple sentences.	Students **listen** to spoken English and **speak** using a variety of sentence types.	Students **listen** to spoken English and **speak** using longer sentences. Exemplar responses are provided.

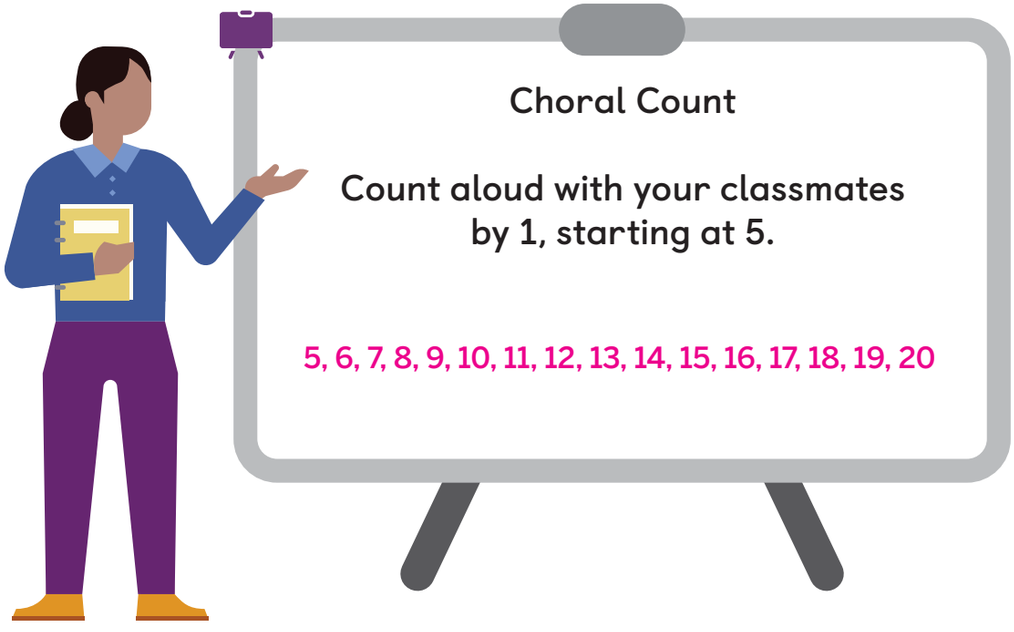
Whole Class | 10 min

Presentation Screen

Warm-Up Choral Count

Fluency

Purpose: Students count by ones from 5 to 20 to notice patterns in the count sequence that will be helpful to count on from 5 when counting the tally marks.



1 Launch

Use the Choral Count routine.

Say, "Let's count by 1, starting at 5 and ending at 20."

Display each number as students count.

Ask:

- "What patterns do you see?"
- "Why do you think this pattern is happening here?"

2 Connect

Record students' responses as they share. Consider highlighting different patterns using different colors.

Say, after adding a box at the end of the displayed count, "Make a prediction about the number that will go in the box."

Ask, "How do you know?"

Say, "You will think about how counting on from 5 could be useful during today's lesson."

Students might say . . . ELPS 2.E

The numbers get bigger as we count.

I notice that the first number in both rows starts with 1, except 20.

I notice that the numbers are getting bigger by 1 as we count.

Starting from 10, the numbers are made up of 2 numbers.

Pair | 15 min

Activity 1 Taking a Survey

Purpose: Students gather information about their classmates' favorite sea animals to represent the votes in a *tally chart*.

Presentation Screens

Materials

Lesson Resources:

- Display the Activity 1 PDF, *Aquarium* during the Launch.
- Use the Activity 1 PDF, *What Is Your Favorite Sea Animal?* to make a tally chart during the Connect.

Classroom materials:

- Display the *Words to Describe Organizing and Representing Data* chart (from Lesson 1) during the Launch.

Short on time? Consider placing the students in groups of 7–10 instead of letting them find partners on their own.

1 Launch

Display the Activity 1 PDF, *Aquarium*.

Say, "Today you will take a survey. A **survey** is a tool that can be used to collect data about a group of people's answers to the same question. What is your favorite sea animal: fish, turtle, or jellyfish?"

Record the terms **survey** and *data* along with their definitions on the *Words to Describe Organizing and Representing Data* chart first displayed in the Explore.

Say, "We are going to use a routine called **Mix and Mingle**. To mix and mingle means to move around the room and talk with different people. During each round of this routine, you will get to talk with a new partner to take a survey to find out their favorite animal."

Use the Mix and Mingle routine. Place students in pairs. Have students rotate to meet with a new partner 7–10 times. ELPS 1.B, 2.B

Note: Students can represent the data however they want. *Tally marks* will be introduced in the Connect.

2 Monitor

While students complete the activity, refer to the **Differentiation | Teacher Moves** table on the following page.

If students need help getting started . . .

- Ask, "Do you like fish, turtles, or jellyfish the most?"
- Ask, "How do you want to represent the data in the chart?

A **Accessibility: Memory and attention** Activate prior knowledge by having students recall the term 'data' learned in Kindergarten as "information about things or people in a group".

3 Connect

MLR This Connect is structured using the *MLR7: Compare and Connect routine*. ELPS 1.B

Display a chart completed by a student in Problem 1. If possible, select a chart with 5 or more votes in a category. Fill in the Activity 1 PDF, *What Is Your Favorite Sea Animal?* with *tally marks* that represent the same data from the selected chart.

Use the Think-Pair-Share routine. Ask: ELPS 2.F

- "What is alike about these 2 charts? What is different?"
- "Which sea animal has the most votes? Which chart did you use to figure it out?"

Say (by pointing at the tally chart), "This is a *tally chart*. The symbols are *tally marks* which can be used to represent data for counting. It is usually written as a group of 5 lines. The first 4 lines are drawn vertically and the fifth line is drawn across over the first four vertical lines."

Key Takeaway: Say, "You can collect, sort and organize data using charts and symbols such as a *tally chart* and *tally marks*."

Student Edition

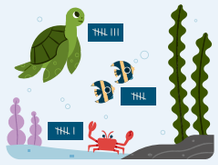
Unit 1
Lesson
3

Name _____

TEKS: 1.1.D, 1.1.E, 1.8.A

What Is Your Favorite Sea Animal?

Let's collect and show data about our class.



Warm-Up eyes on teacher

We are a math community. What questions could you ask someone in your math class to help you get to know them?

Activity
1

Taking a Survey

1 **Survey** your classmates to find out what their favorite sea animals are.
Fill in the chart with the data that were collected.
Sample response shown.

What Is Your Favorite Sea Animal?

fish	jellyfish	turtle
Name 1, Name 2, Name 3	Name 4, Name 5, Name 6, Name 7, Name 8, Name 9	Name 10

Grade 1 Unit 1 Lesson 3 11 Warm-Up | Activity 1

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Represent all the survey data in 1 row instead of respective rows.		**Support** Ask, " What is another way to represent the data to know how many are in each category?"
Represent all the survey data by writing the names in the respective rows.	What is Your Favorite Sea Animal? Name 1, Name 2, Name 3 / Name 4, Name 5, Name 6, Name 7, Name 8, Name 9 / Name 10	**Strengthen** Ask, "Could there be another way to represent the data in a faster or clearer way? How would you do it?"
Represent all the survey data by drawing tallys in the respective rows.		

Pair | 15 min

Activity 2 Interpreting Data in Tally Charts

Purpose: Students share ideas for interpreting data in tally charts to further develop their understanding of organizing and representing data.

Presentation Screens

Materials

Lesson Resources:

- Display the Activity 2 PDF during the Launch.

Short on time? Consider modifying the activity so that pairs discuss a couple of the tally charts, as opposed to a Gallery Tour.

1 Launch

Say, "In Zora's school, a survey was taken across all the classes in the first grade to find out their favorite sea animal."

Display the Activity 2 PDF around the classroom.

Say, "We will use a routine called the Gallery Tour routine. A gallery is a room that has different work displayed. In this routine, you will take a tour around our classroom to look at the tally charts and have a discussion with your partner."

Use the Gallery Tour routine. Read aloud the directions.

MLR **MLR8: Discussion Supports — Sentence Frames**

During the Gallery Tour, display the sentence frames from Activity 2 to support the discussion. ELPS 2.C

2 Monitor

While students complete the activity, refer to the D Differentiation | Teacher Moves table on the following page.

If students need help getting started . . .

- Ask, "What do you know about the data by looking at this representation?"
- Ask, "What part of the representation shows that information about the data?"

3 Connect

Display Page 1 of the Activity 2 PDF.

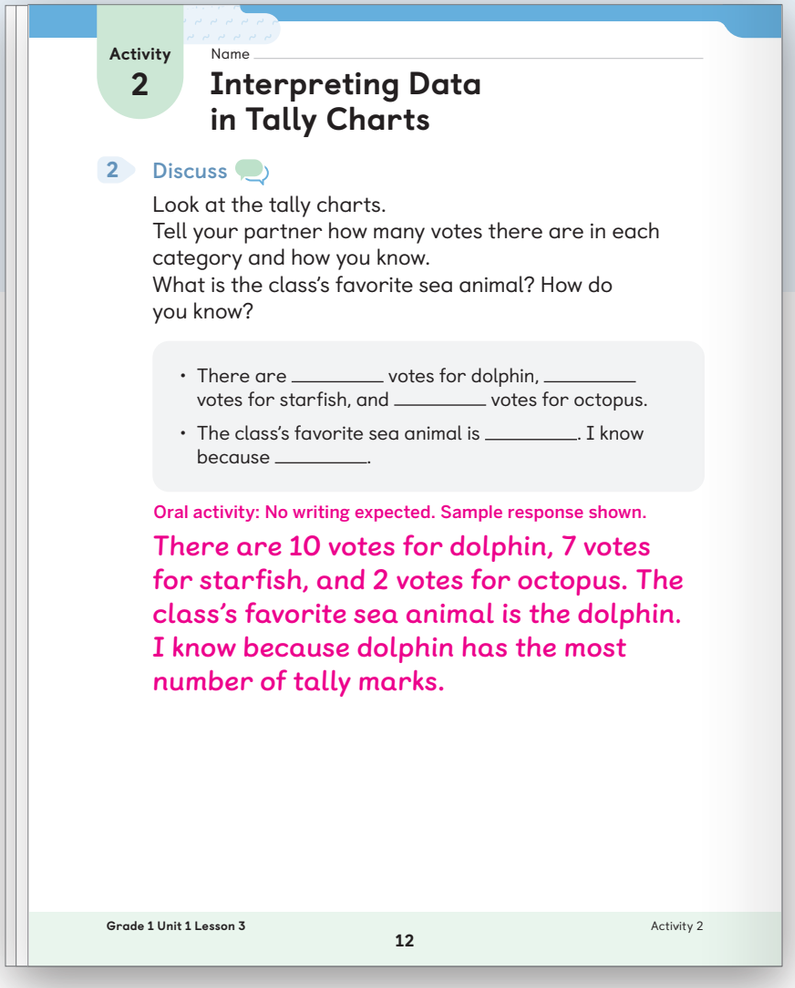
Use the Think-Pair-Share routine. Ask:

- "How do you know how many votes there are for dolphins?"
- "How did you count the tally marks?"

EB **Emergent Bilinguals:** Pair students with different levels of English language proficiency together as they listen and speak to share their thinking. This will provide a structured opportunity for bilingual learners to interact with and receive feedback from their peers with varied language backgrounds. ELPS 2.E

Key Takeaway: Say, "You can count tally marks by ones or you can find a group of 5 and count on by fives."

Student Edition



Activity 2

Name _____

Interpreting Data in Tally Charts

2 Discuss

Look at the tally charts.
Tell your partner how many votes there are in each category and how you know.
What is the class's favorite sea animal? How do you know?

- There are _____ votes for dolphin, _____ votes for starfish, and _____ votes for octopus.
- The class's favorite sea animal is _____. I know because _____.

Oral activity: No writing expected. Sample response shown.

There are 10 votes for dolphin, 7 votes for starfish, and 2 votes for octopus. The class's favorite sea animal is the dolphin. I know because dolphin has the most number of tally marks.

Grade 1 Unit 1 Lesson 3 12 Activity 2

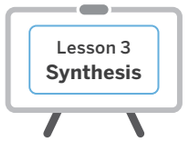
Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Count only the vertical tally marks to tell how many in each category.	Dolphin | 𝍸 𝍸 There are 8 votes for dolphin.	**Support** Ask, "How many tally marks are there in a group including the line drawn across over the 4 tally marks?
Count the tally marks one by one to tell how many in each category.	Dolphin | 𝍸 𝍸 There are 10 votes for dolphin.	**Strengthen** Ask, "How could you count the tally marks in another way?"
Count the tally marks by 5 to tell how many in each category.		**Stretch** Ask, "How many votes will there be if there is 1 more group of 5 tally marks for dolphin?"

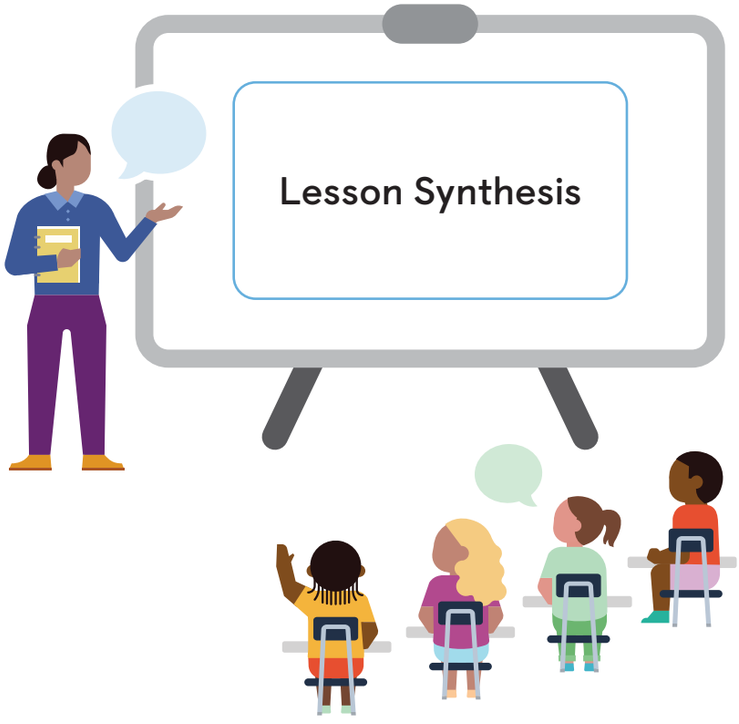
Whole Class | 10 min

Presentation Screen



Synthesis

Lesson Takeaway: Data can be collected using a **survey** and sorted and organized in a *tally chart* using *tally marks* to show how many in each category.



Use the Think-Pair-Share routine. Ask:

- "How are the data represented?
- "Why are the data represented this way?"

Say, "Data can be collected with a survey and sorted and organized in a tally chart using tally marks to show how many in each category."

Formalize vocabulary: A **survey** is a tool that can be used to collect information about a group of people's answers to the same question.

(optional) **Consider using the Frayer Model routine** with the term *survey*. **ELPS 3.E, 3.F**

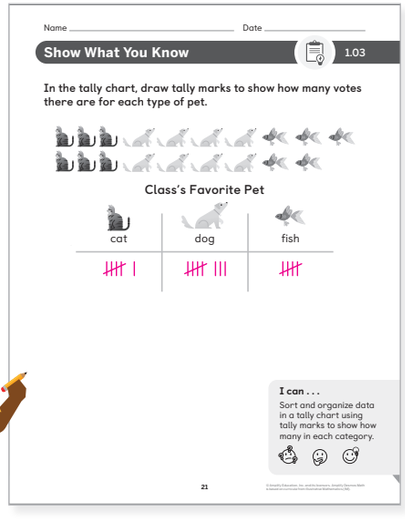
Refer to the *Math Language Development Resources* for a description of this routine and for more vocabulary support.

Invite students to refer to the **Summary** during Practice or anytime during the year.

Show What You Know (Optional)

Independent | 5 min

Show What You Know PDF


Name _____ Date _____

Show What You Know 1.03

In the tally chart, draw tally marks to show how many votes there are for each type of pet.

Class's Favorite Pet

cat	dog	fish
𝍸 I	𝍸 III	𝍸

I can . . .
Sort and organize data in a tally chart using tally marks to show how many in each category.

21

Today's Goals

1. **Goal:** Collect data and organize representations of survey data.
   - In the *Show What You Know*, students organized and represented a set of survey data in a tally chart.
2. **Language Goal:** Explain ways to organize and represent data so that the amount in each category is clear. **(Listening and Speaking)** **ELPS 1.B, 2.C, 2.E**
3. **Language Goal:** Explain how data in a tally chart can be interpreted. **(Listening and Speaking)** **ELPS 1.B, 2.C, 2.E**

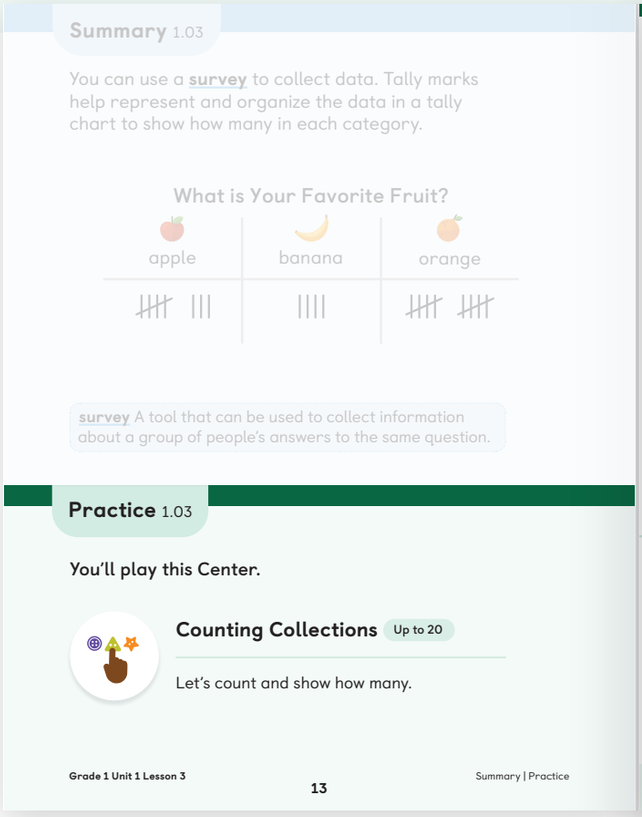
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

Practice

Independent

Provide students with sufficient practice to build and reinforce their conceptual understanding, fluency, and application of mathematical topics, assessment practice, and ongoing spiral review.

Students using print



Summary 1.03

You can use a survey to collect data. Tally marks help represent and organize the data in a tally chart to show how many in each category.

What is Your Favorite Fruit?

apple	banana	orange
𝍸 | ||	𝍸	𝍸 𝍸

survey A tool that can be used to collect information about a group of people's answers to the same question.

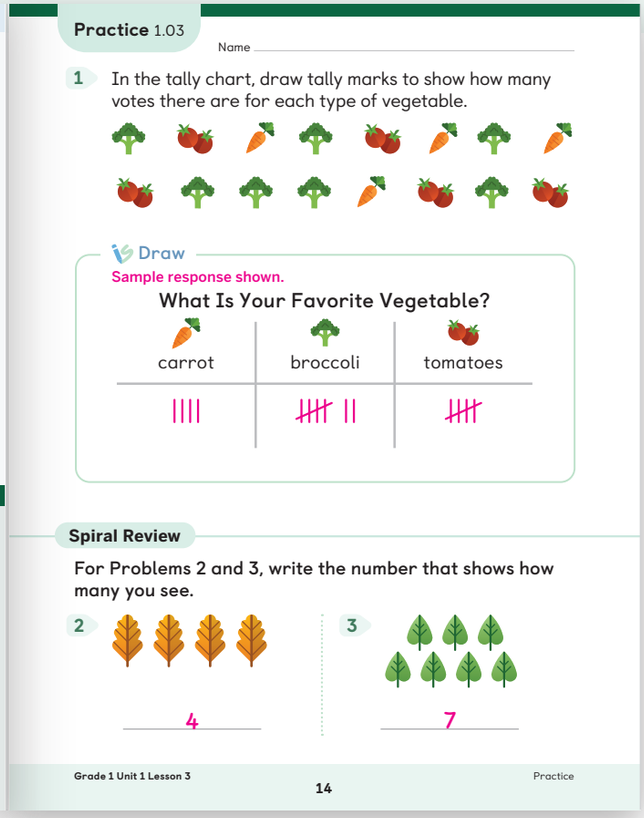
Practice 1.03

You'll play this Center.

Counting Collections Up to 20

Let's count and show how many.

Grade 1 Unit 1 Lesson 3 13 Summary | Practice



Practice 1.03

Name _____

1 In the tally chart, draw tally marks to show how many votes there are for each type of vegetable.

Draw

Sample response shown.

What Is Your Favorite Vegetable?

carrot	broccoli	tomatoes
𝍸	𝍸 ||	𝍸

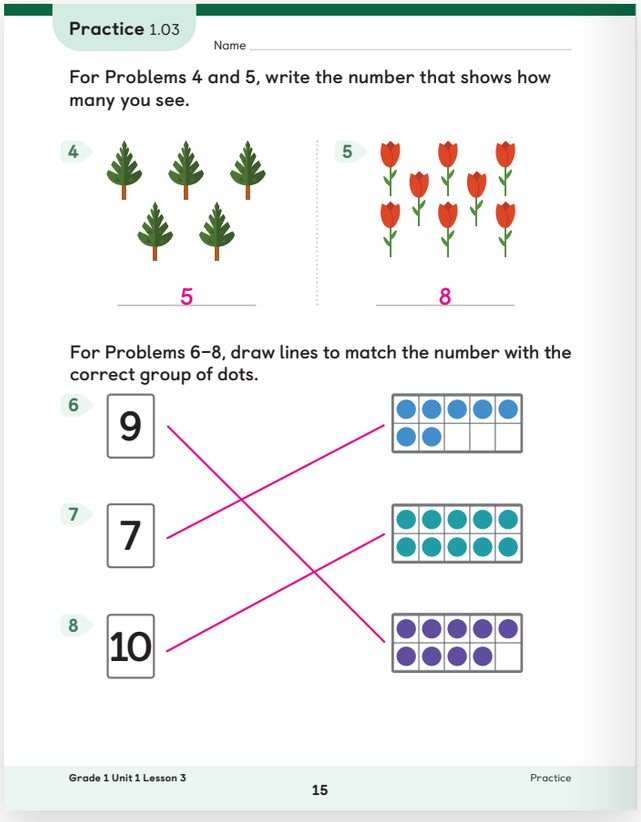
Spiral Review

For Problems 2 and 3, write the number that shows how many you see.

2 4

3 7

Grade 1 Unit 1 Lesson 3 14 Practice



Practice 1.03

Name _____

For Problems 4 and 5, write the number that shows how many you see.

4 5

5 8

For Problems 6–8, draw lines to match the number with the correct group of dots.

6 9

7 7

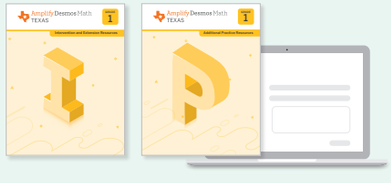
8 10

Grade 1 Unit 1 Lesson 3 15 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1	2	1.8.A
Spiral Review			
Fluency	2–5	1	K.2.B K.2.C
Fluency	6–8	1	K.2.B K.2.D

Need more Practice?



Additional practice can be found in the **Practice Resources, Intervention and Extension Resources,** and online resources (item banks, Boost Personalized Learning, and Fluency Practice).

Pairs | 15 min

Introducing the Center
Counting Collections, Up to 20

Purpose: Students count collections of up to 20 objects and represent how they counted.

Presentation Screens

Materials

Manipulative Kit:

- Distribute 5-frames and 10-frames to each pair.

Classroom materials:

- Distribute one collection of assorted objects (up to 20) to each pair.

Centers Resources:

- Display the Directions and the Recording Sheet.
- Distribute one Recording Sheet to each student.

1 Launch

Display the Center materials, Directions, and Recording Sheet.

Demonstrate how to play *Counting Collections, Up to 20*. While demonstrating: ELPS 1.C

- **Say**, "You will play *Counting Collections* today."
- **Say**, "First, I will talk with a partner about how to count the objects. Then my partner and I will choose the tools we want to use to help us count."
- **Use the Think-Pair-Share routine.** Ask, "How would you count this collection to find how many?"
- **Say**, "I will use the 10-frame to organize the objects, count them, and then record how many." After counting the objects, record the amount.
- **Say**, "Now, you will play the Center with a partner. After counting a collection and recording the amount, choose another collection to count."

2 Monitor

Observe how students are counting objects. They may count by 1, group the objects to count them, or use the 5-frames and 10-frames to organize and count.

3 Connect

Display 5-frames, 10-frames, and a collection of objects.

Invite students to share how they counted their collections. Select and sequence their responses in the order shown in the *Differentiation* table.

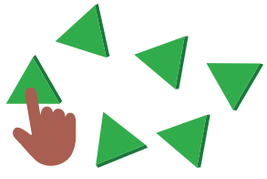
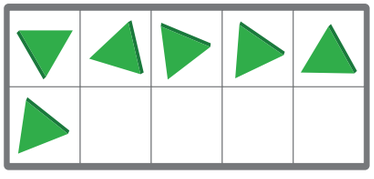
Ask, "How are these counting strategies alike? How are they different?"

Key Takeaway: Say, "You can organize and count collections of objects in different ways to find the total amount."

Centers Resource Book

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Count their objects in a scattered arrangement and double-count or skip one of the objects.	 1, 2, 3, 4, 5, 6, 7	**Support** Ask, "How can you keep track of your count so that you know you have counted each object once?"
Count their objects after lining them up and count each object once.	 1, 2, 3, 4, 5, 6	**Strengthen** Ask, "How did organizing your objects in this way help you know how many?"
Count their objects on a 10-frame.	 5, 6	

Differentiation Use after Lesson 3

Lesson Goal: Collect data and organize representations of survey data.

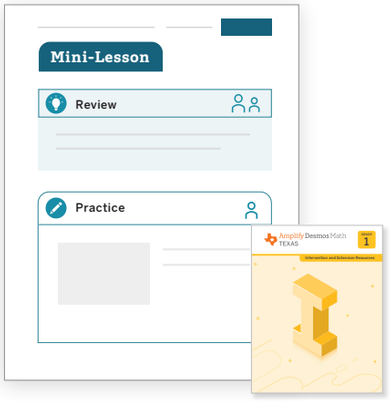
Support

Provide targeted intervention for students by using these resources.

If students organize and represent the data without using tally marks:

Respond:

- Assign the *Representing and Organizing Data* Mini-Lesson. | 15 min
- Review the problem in Activity 1 and represent the data using tally marks.



Strengthen

Reinforce students' understanding of the concepts assessed by using these resources.

If students organize and represent the data using tally marks without making groups of 5:

Respond:

- Invite students to play these **Centers.** | 15 min
  Counting Collections: Up to 20
  Shake and Spill: Which Is More?
- Have students complete **Lesson 3 Practice.** | 15 min
- **Item Bank**

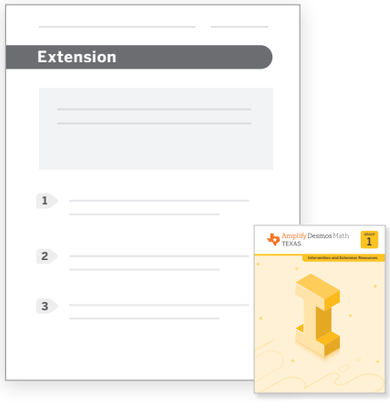
Stretch

Challenge students and extend their learning with these resources.

If students organize and represent the data using tally marks by making groups of 5:

Respond:

- Invite students to explore the **Sub-Unit 1 Extension Activities.** | 15 min
- Revisit Activity 1 and invite students to respond to the **Stretch** question from the *Differentiation: Teacher Moves* table. | 5 min

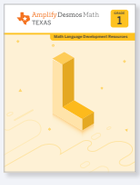


Support, *Strengthen*, and *Stretch* learning by assigning these digital resources that adjust to each student's current level of skill and understanding.
• **Boost Personalized Learning** • **Fluency Practice** • **Math Adventures**

Math Language Development

EB Use the **Math Language Development Resources** for further language support with all your students, including those building English proficiency.

- English/Spanish cognates
- Frayer Model templates
- Vocabulary routines



Professional Learning

Reflect on times you observed students learning more about one another. What are some ways that you can learn more about your students and encourage your students to learn more about each other?