

 Amplify Desmos Math **TEXAS**

Grade 5

Volume 1: Units 1–3

 **Teacher Edition** 

About Amplify

Amplify is dedicated to collaborating with educators to create learning experiences that are rigorous and riveting for all students. Amplify creates K–12 core and supplemental curriculum, assessment, and intervention programs for today’s students.

A pioneer in K–12 education since 2000, Amplify is leading the way in next-generation curriculum and assessment. All of our programs provide teachers with powerful tools that help them understand and respond to the needs of every student.

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Amplify gratefully acknowledges the work of distinguished program advisors from English Learners Success Forum (ELSF), who have been integral in the development of Amplify Desmos Math. ELSF is a 501(c)(3) nonprofit organization whose mission is to expand educational equity for multilingual learners by increasing the supply of high-quality instructional materials that center their cultural and linguistic assets.

Amplify gratefully acknowledges the work of distinguished program advisors from Rice University School Mathematics Project (RUSMP), who have been integral in the development of Amplify Desmos Math Texas. RUSMP’s mission is to create a better understanding of the nature, beauty, and importance of mathematics by promoting effective teaching of mathematics and contributing significant research and evaluation on teaching and learning.

Cover illustration by Caroline Hadilaksono.

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55 Washington Street, Suite 800
Brooklyn, NY 11201
www.amplify.com

ISBN: 9798895799390
Printed in [e.g., the United States of America]
[# of print run] [print vendor] [year of printing]

Dear Teacher,

Welcome to Amplify Desmos Math Texas! We're so excited your school has chosen our program this year. Your hard work plays an essential role in your students' math experience, so we wanted to reach out to introduce ourselves.

We developed this program around the idea that a structured approach to problem-based instruction builds on students' curiosity to develop lasting grade-level understandings for every member of your classroom. Each lesson offers opportunities for you to build on students' understanding, connect their ideas, develop their skill fluency, and empower them to ask questions, explore, and make discoveries. This year, our mission is for your students to learn math — and to love learning math!

Here's what you can expect:

- A program **designed around the Texas Essential Knowledge and Skills** for Mathematics.
- **Deep and intentional alignment** to the English Language Proficiency Standards.
- **Interactive lessons** that blend paper-based and digital learning, including:
 - » Lessons that drive classroom discussions so students can work toward a shared understanding and sense of community.
 - » Responsive Feedback™ that interprets students' responses in context and encourages perseverance and revision.
 - » Easy-to-follow lesson plans tested in classrooms across the country, with clear teaching suggestions, strategies, and Math Language Routines.
- **Lesson practice** to support fluency and help students review previous topics.
- **Recommended differentiation moves** that meet the needs of diverse learners.
- **Diagnostic, formative, and summative assessments** along with lesson-level checks for understanding.
- **A caregiver resource** for each unit that includes explanations of key math concepts and problems to try.

We hope your students enjoy using technology to explore math, working with classmates to solve problems, and learning new and interesting concepts. We also hope you love experiencing it with them!

—The Amplify Desmos Math Texas team



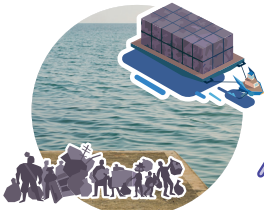
Unit 1 Volume, Factors, and Expressions

Students understand volume as the space a figure takes up and use their understanding of multiplication to determine the volume of rectangular prisms.

Unit Story: Joyful Green In this story, Trashville’s excess trash is packed into cubes and shipped off to the town of Joyful Green, where the trash is given a new purpose.




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Anna Shkolnaya/Shutterstock.com

 Pre-Unit Check	1T
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Sub-Unit 1 Unit Cubes and Volume	3
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 1.01 Explore: Filling Containers Which container has the greatest capacity?	4A
1.02 Which Is Largest? Defining Volume	6A
1.03 Cube Figures Developing Strategies to Determine Volume	12A
1.04 Stacking Garbage Using the Structure of Rectangular Prisms to Determine Volume	19A

5.1.B, 5.1.C, 5.1.D, Building Toward 5.6.A
5.1.E, 5.1.G, 5.6.A
5.1.E, 5.1.G, 5.6.A
5.1.E, 5.1.F, 5.1.G, 5.6.A

 Sub-Unit Quiz 1	25C
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Yongkiet Jitwattanatham/Shutterstock.com

Sub-Unit 2 Calculating Volume of Rectangular Prisms	27
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1.05 Piled High Determining Volume Using the Number of Layers and Area of the Base Layer	28A
1.06 Volume of Rectangular Prisms Developing Formulas for Determining Volume	35A
1.07 Shipping Out Trash Representing and Solving Problems Related to Area and Volume	42A
1.08 Trash to Treasure (Optional) Using Multiplication to Calculate Volume	47A
1.09 Figures Made of Prisms (Optional) Determining Volumes of Figures in Different Ways	54A

5.1.D, 5.1.E, 5.4.H, 5.6.B
5.1.B, 5.1.F, 5.4.G, 5.4.H
5.1.A, 5.1.C, 5.1.D, 5.1.E, 5.1.G, 5.4.H
5.1.B, 5.1.E, 5.1.F, 5.4.H
5.1.F, 5.1.G, 5.4.H

 Sub-Unit Quiz 2	60C
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Sub-Unit 3 Factors and Expressions	61
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1.10 How Many Rectangles? Determining Factor Pairs	62A
1.11 Hamster Homes (Optional) Real-World Problems Involving Factor Pairs	69A
1.12 How Many Factors? Introducing Prime and Composite Numbers	76A
1.13 Mystery Numbers Using Factors and Multiples to Describe and Identify Numbers	83A
1.14 A Number Game Applying Factors, Multiples, and Prime and Composite Numbers	88A
1.15 Operation: Organize and Order! Introducing Order of Operations	95A
1.16 Numbers Work in Groups Describing the Meaning of Parentheses and Brackets	102A
1.17 Super-Sized Equations Representing Multi-Step Story Problems With Equations That Include Grouping Symbols	109A

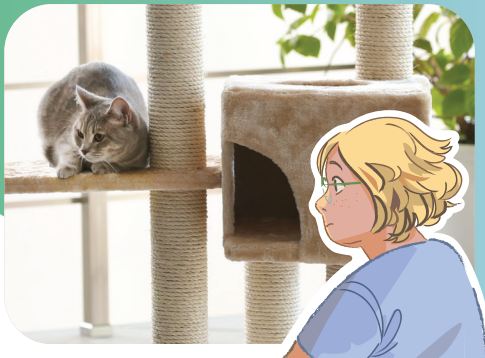
5.1.E, 5.1.F, 5.4.H
5.1.B, 5.1.D, 5.1.E, Building Toward 5.4.A
5.1.F, 5.1.G, 5.4.A
5.1.D, 5.1.F, 5.4.A
5.1.D, 5.1.F, 5.4.A
5.1.B, 5.1.F, 5.1.G, 5.4.F
5.1.B, 5.1.G, 5.4.E, 5.4.F
5.1.A, 5.1.D, 5.1.F, 5.1.G, 5.4.F, 5.4.H

 End-of-Unit Assessment	114E
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Unit 2 Multiplying and Dividing Fractions

Students multiply whole numbers and fractions and divide unit fractions and whole numbers.

Unit Story: Princess Sweetsocks In this story, Shay bonds with a troublesome cat as he perseveres as a volunteer at an animal shelter.



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 Pre-Unit Check	115T
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Sub-Unit 1 Multiplying Fractions and Whole Numbers	117
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2.01 Explore: Quilts for Critters How Many Quilts?	118A
2.02 Sharing Stories Multiplying Whole Numbers by Unit Fractions When the Multiplier is a Whole Number	120A
2.03 Fruitful Fractions Multiplying Unit Fractions by Whole Numbers	125A
2.04 Representation Matters More Scaling Whole Numbers by Unit Fractions	132A
2.05 Multiplying With Non-Unit Fractions Determining Products of Whole Numbers and Non-Unit Fractions	139A
2.06 Ronnie the Roly Poly Representing Equivalent Multiplication Expressions	146A
2.07 Bamboozled Multiplying Whole Numbers and Mixed Numbers	153A

5.1.A, 5.1.B, 5.1.E, 5.1.F, 5.3.I
5.1.A, 5.1.C, 5.1.D, 5.1.E, 5.1.F, 5.3.I
5.1.A, 5.1.E, 5.1.F, 5.1.G, 5.3.I
5.1.A, 5.1.E, 5.1.F, 5.1.G, 5.3.I
5.1.D, 5.1.F, 5.3.I, 5.4.F
5.1.E, 5.1.F, 5.1.G, 5.3.I
5.1.B, 5.1.F, 5.1.G, 5.3.I

 Sub-Unit Quiz 1	159C
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Sub-Unit 2 Dividing With Fractions and Whole Numbers	161
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2.08 Sharing Cat Food Representing and Solving Division of a Whole Number by a Unit Fraction	162A
2.09 Hungry, Hungry Puppies Dividing Whole Numbers by Unit Fractions	169A
2.10 Sharing Parts Representing and Solving Division of a Unit Fraction by a Whole Number	176A

5.1.A, 5.1.E, 5.1.F, 5.3.J, 5.3.L
5.1.A, 5.1.C, 5.1.F, 5.1.G, 5.3.J, 5.3.L
5.1.E, 5.1.F, 5.3.J, 5.3.L

 End-of-Unit Assessment	182E
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Unit 3 Multi-Digit Multiplication and Division and Financial Literacy

Students use place value strategies and algorithms to multiply and divide whole numbers. Students balance simple budgets and identify different types of taxes.

Unit Story: Andrea In this story, Gil learns the value of thinking differently from his cousin Andrea.




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saknarin srijan/Shutterstock.com

 Pre-Unit Check	183V
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Sub-Unit 1 Multi-digit Multiplication	185
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 3.01 Explore: Estimation Station How can you get as close as possible to a target product?	186A
3.02 Answering Andrea's Questions Estimating and Determining Products of Multi-Digit Numbers	188A
3.03 Miles of Fun Representing Values of Expressions Involving Multi-Digit Factors	195A
3.04 Partial Products Everywhere Determining Products Using a Partial Products Algorithm	200A
3.05 Multiplication Mayhem Multi-Digit Multiplication Fluency	207A

5.1.A, 5.1.B, 5.1.E, 5.1.G,
Building Toward 5.3.A

5.1.A, 5.1.B, 5.1.F, 5.1.G,
5.3.A

5.1.B, 5.1.F, 5.1.G, 5.3.A

5.1.B, 5.1.E, BT 5.3.B

5.1.C, 5.1.D, 5.1.E, 5.1.G,
5.3.A, 5.3.B

 Sub-Unit Quiz 1	213C
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Sub-Unit 2 Multi-Digit Division	215
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3.06 Whose Quotient Is It Anyway? Dividing Multi-Digit Dividends By One-Digit Divisors	216A
3.07 What Do You Think? Dividing Three- and Four-Digit Dividends by Two-Digit Divisors	223A
3.08 Emptying the Water Tank Determining 1 Partial Quotient for Each Place Value	229A
3.09 Algorithm Affinity Dividing Multi-Digit Dividends by Two-Digit Divisors Using the Standard Algorithm	235A
3.10 Celery Chop Representing Remainders	242A

5.1.A, 5.1.C, 5.1.D,
Building Toward 5.3.C

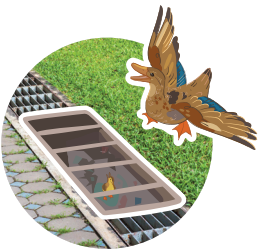
5.1.B, 5.1.E, 5.3.A, 5.3.C

5.1.E, 5.1.F, 5.3.C

5.1.C, 5.1.D, 5.1.E, 5.1.F,
5.1.G, 5.3.C, 5.4.H

5.1.G, 5.3.C

 Sub-Unit Quiz 2	248C
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Sub-Unit 3 Representing Multi-Step Problems With Equations	249
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3.11 It's All in the Details Representing Multi-Step Story Problems With Equations Using a Letter Standing for the Unknown Quantity	250A
3.12 Uncovering the Unknown Solving Multi-Step Story Problems With Equations Using a Letter Standing for the Unknown Quantity	257A
3.13 Game, Set, Match! Using Reasoning, Without Simplifying, to Compare Expressions	264A

5.1.A, 5.1.B, 5.1.C, 5.1.D,
5.1.E, 5.4.B

5.1.A, 5.1.B, 5.1.E, 5.1.F,
5.1.G, 5.4.B, 5.4.F

5.1.D, 5.1.F, 5.1.G,
Building Toward 5.4.F

 Sub-Unit Quiz 3	268C
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Sub-Unit 4 Financial Literacy	269
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3.14 Money, Money, Money! Types of Income and Taxes	270A
3.15 Is It Balanced? Making and Balancing a Budget	277A
3.16 Add It, Subtract It, Track It! Creating Strategies to Keep Financial Records	284A
3.17 Time to Check Out! Analyzing Payment Methods	291A

5.1.A, 5.1.D, 5.10.A, 5.10.B

5.1.A, 5.3.K, 5.10.E, 5.10.F

5.1.A, 5.1.E, 5.3.K, 5.10.D

5.1.A, 5.1.F, 5.1.G, 5.3.B,
5.10.C

 End-of-Unit Assessment	298C
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Unit 4 Place Value Patterns and Decimal Operations

Students deepen their understanding of place value as they perform the 4 operations with decimals to the hundredths.

Unit Story: Market Day In this story, 4 kid entrepreneurs showcase their clever businesses.




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 Pre-Unit Check	299T
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Sub-Unit 1 Decimal Place Value	301
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 4.01 Explore: Numbers Between Numbers Is there <i>always</i> a number between 2 numbers?	302A
4.02 What Is Smaller Than One Hundredth? Making Sense of Thousandths	304A
4.03 Different Decimal Representations Expanding Thousandths	309A
4.04 Notation and Numerals Representing Decimals in Expanded Form, Expanded Notation, and With Numerals	316A
4.05 The Claw Locating Decimals on Number Lines	321A
4.06 Selling Collectibles Comparing Decimals to the Thousandths	328A
4.07 Which Way Down the Mountain? Rounding Decimals to the Hundredths	335A
4.08 Rounding Races Rounding Decimals to the Hundredths in Context	342A
4.09 Market Day Preparation Adding and Subtracting Decimals in Real-World Problems	349A

5.1.A, 5.1.B, 5.1.F, 5.1.G, Building Toward 5.2.A
5.1.D, Building Toward 5.2.A
5.1.D, 5.1.E, 5.1.F, 5.1.G, Building Toward 5.2.A
5.1.E, 5.1.F, 5.1.G, 5.2.A
5.1.E, 5.1.F, Building Toward 5.2.B
5.1.D, 5.1.F, 5.1.G, 5.2.B
5.1.C, 5.1.D, 5.1.F, 5.2.C
5.1.A, 5.1.C, 5.1.F, 5.1.G, 5.2.B, 5.2.C
5.1.A, 5.1.B, 5.1.D, 5.1.F, 5.1.G, 5.3.K

 Sub-Unit Quiz 1	355C
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Sub-Unit 2 Multiplying Decimals	357
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4.10 Exploring Decimal Multiplication Making Sense of Decimal Multiplication	358A
4.11 Comic Book Advertisements Multiplying Whole Numbers and Decimals Less Than or Greater Than 1	363A
4.12 Model Multiplication Representing Multiplication of Decimals With Pictorial Models	370A
4.13 Decimals, Models, and Decompositions Representing Multiplication of Decimals with Area Models	377A

5.1.C, 5.1.D, 5.1.E, 5.3.D, 5.3.E
5.1.C, 5.1.D, 5.1.E 5.3.E, 5.3.D
5.1.A, 5.1.B, 5.1.E, 5.1.F, 5.1.G, 5.3.D, 5.3.E
5.1.E, 5.1.F, 5.1.G, 5.3.D, 5.3.E

 Sub-Unit Quiz 2	384C
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Sub-Unit 3 Dividing Decimals	385
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4.14 Breaking It Down! Representing Decimal Division With Hundredths Models	386A
4.15 Multiple Ways Representing Division of Decimals With Area Models	393A
4.16 Use What You Know Using Whole Number Division to Divide Decimals	400A
4.17 Dividing Decimals the Standard Way Dividing Decimals Using the Standard Algorithm	407A

5.1.A, 5.1.E, 5.1.F, 5.1.G, 5.3.F
5.1.A, 5.1.E, 5.1.F, 5.3.F
5.1.B, 5.1.C, 5.1.F, 5.1.G, 5.3.A, 5.3.G
5.1.C, 5.1.D, 5.1.E, 5.1.G, 5.3.A, 5.3.G

 End-of-Unit Assessment	414D
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Unit 5 Measurement, Fraction Operations, and Data

Students solve story problems by calculating conversions within a measurement system including multi-step conversions. Students extend their understanding of fraction operations to add and subtract fractions with unequal denominators.

Unit Story: The Monarchs In this story, Jacob, Miriam, and Quique study the migration of monarch butterflies across North America.




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 Pre-Unit Check	415T
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Sub-Unit 1 Measurement Conversions	417
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 5.01 Explore: Relationships Between Units How are units of measurement related?	418A
5.02 Traveling Butterflies Converting Metric Lengths	420A
5.03 MASSive Measurements Converting Between Metric Units of Mass	425A
5.04 Butterfly Feeders Solving Metric Liquid Volume Problems	432A
5.05 Collecting Compost Converting Between Customary Units of Weight	437A
5.06 Butterfly Garden Converting Between Customary Units of Length	444A
5.07 Taking Care of the Butterfly Garden Solving Customary Liquid Volume Problems	449A

5.1.A, 5.1.B, 5.1.D, 5.1.E,
5.1.F, Building Toward 5.7.A

5.1.A, 5.1.F, 5.7.A

5.1.F, 5.1.G, 5.7.A

5.1.A, 5.1.E, 5.1.F, 5.1.G,
5.7.A

5.1.A, 5.1.B, 5.1.F, 5.7.A

5.1.A, 5.1.F, 5.1.G, 5.7.A

5.1.A, 5.1.B, 5.1.F, 5.7.A

 Sub-Unit Quiz 1	454C
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Sub-Unit 2 Adding and Subtracting Fractions With Unequal Denominators	455
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5.08 Spread Your Wings and Fly Adding and Subtracting Fractions With Unequal Denominators Using Objects	456A
5.09 Preparing for Winter With Unequal Fractions Representing Addition and Subtraction of Related Fractions Using Pictorial Models	463A
5.10 Quique's Monarch Butterflies Adding and Subtracting Fractions of Related and Unrelated Denominators	470A
5.11 All Sorts of Denominators Determining Common Denominators Using Multiples and Factors	477A
5.12 What's in a Sum? Adding Mixed Numbers With Unequal Denominators	484A
5.13 Measuring Growth Subtracting Mixed Numbers With Unequal Denominators	491A
5.14 Road Trip Adding and Subtracting Mixed Numbers	496A

5.1.A, 5.1.C, 5.1.D, 5.1.E,
5.3.H

5.1.A, 5.1.C, 5.1.E, 5.1.F,
5.1.G, 5.3.H

5.1.A, 5.1.B, 5.1.C, 5.1.F,
5.1.G, 5.3.H

5.1.D, 5.1.E, 5.1.F, 5.1.G,
5.3.H

5.1.B, 5.1.D, 5.1.E, 5.1.G,
5.3.A, 5.3.H

5.1.A, 5.1.B, 5.1.D, 5.1.E,
5.1.G, 5.3.H

5.1.A, 5.1.B, 5.1.F, 5.1.G,
5.3.H, 5.4.F

 Sub-Unit Quiz 2	500C
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Sub-Unit 3 Representing and Interpreting Data	501
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5.15 Frequent Fliers Representing Data With Bar Graphs and Frequency Tables	502A
5.16 Homemade Nectar Representing Data and Solving Problems	509A
5.17 Wings of Wonder Problem Solving With Dot Plots	516A

5.1.A, 5.1.C, 5.1.D, 5.1.E,
5.1.F, 5.1.G, 5.9.A

5.1.A, 5.1.B, 5.1.C, 5.1.E
5.9.A, 5.9.C

5.1.B, 5.1.D, 5.1.G, 5.9.C

 End-of-Unit Assessment	522E
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Unit 6 Geometry and Algebraic Reasoning

Students classify shapes in hierarchies and use the coordinate grid to represent real-world problems.

Unit Story: Hanan Pacha In this story, Mia visits her grandfather in Chile and learns about the heritage of her ancestors and the beauty of “looking up” once in a while.



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Pre-Unit Check 523T

Sub-Unit 1 Hierarchies of Shapes 525

6.01	Explore: Sorting Objects How can you show categories?	526A
6.02	Classifying Triangles Using a Hierarchy to Classify Triangles	528A
6.03	Classifying Quadrilaterals Using a Hierarchy to Classify Quadrilaterals	535A
6.04	A Question of Shape Identifying the Most Specific Name of a Quadrilateral	541A
6.05	Classifying Shapes in Graphic Organizers Using Graphic Organizers to Classify Triangles and Quadrilaterals	546A

5.1.A, 5.1.B, 5.1.D, 5.1.E, Building Toward 5.5.A

5.1.C, 5.1.F, 5.1.G, 5.5.A

5.1.E, 5.1.F, 5.1.G, 5.5.A

5.1.F, 5.1.G, Building Toward 5.5.A

5.1.E, 5.1.F, 5.1.G, 5.5.A

Sub-Unit Quiz 1 552C

Sub-Unit 2 Graphing on the Coordinate Grid 553

6.06	Creating a Coordinate System Using the Coordinate Grid to Locate Points	554A
6.07	Bullseye! Points on the Coordinate Grid	560A
6.08	Coordinating Satellite Repairs Graphing Points on Lines	567A
6.09	Follow My Lead Describing the Process for Graphing Ordered Pairs	575A

5.1.D, 5.1.E, Building Toward 5.8.A

5.1.F, 5.1.G, 5.8.C

5.1.B, 5.1.D, 5.1.F, 5.8.C

5.1.D, 5.1.G, 5.8.A, 5.8.B, 5.8.C

Sub-Unit Quiz 2 581C

Sub-Unit 3 Graphing Relationships 583

6.10	Patterns in Tables and Graphs Recognizing Additive and Multiplicative Relationships	584A
6.11	Graphing Patterns Graphing Multiplicative and Additive Patterns	591A
6.12	Graphing Real-World Problems Graphing Ordered Pairs Generated from Real-World Problems	598A

5.1.B, 5.1.D, 5.1.E, 5.1.F, 5.1.G, 5.4.D

5.1.D, 5.1.E, 5.4.C, 5.4.D

5.1.A, 5.1.D, 5.1.E, 5.1.F, 5.8.C, 5.9.B

End-of-Unit Assessment 605C



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Notes:

Designed Around the TEKS

Amplify Desmos Math Texas, Grade 5 is built from the Texas Essential Knowledge and Skills for Grade 5. The primary focal areas in Grade 5 consist of (1) solving problems involving all four operations with positive rational numbers, (2) determining and generating formulas and solutions to expressions, and (3) extending measurement to area and volume. In Amplify Desmos Math Texas, Units 1-5 address solving problems involving all four operations with positive rational numbers. Unit 1, Unit 2, Unit 3, and Unit 6 address generating formulas and solutions to expressions. Unit 1 addresses the extension of measurement to area and volume.

Rationale of Unit Order in Amplify Desmos Math Texas, Grade 5

Unit 1 Volume, Factors, and Expressions

Grade 5 begins with engagement as students explore concepts of volume and the numerical expressions that can be used to represent and determine volume. This unit is placed at the beginning of the year as geometry concepts can often be naturally motivating to students.

- **The work students embark on in Unit 1 builds upon their understanding of** the multiplication of whole numbers from Grades 3 and 4.
- **Unit 1 work is necessary to prepare students for further work with** representing contexts with multiplication expressions in Unit 2.

Unit 2 Multiplying and Dividing Fractions

Students extend their understanding of fraction operations from Grade 4 to include multiplying fractions and whole numbers and dividing a whole number by a unit fraction and vice versa. This unit is placed in the beginning of Grade 5, immediately after Unit 1, as students extend their understanding of multiplication expressions to represent additional contexts other than volume and to now include fractional values in those expressions.

- **The work students embark on in Unit 2 builds upon their understanding of** multiplication expressions from Unit 1.
- **Unit 2 work is necessary to prepare students for further work with** multiplication expressions with multi-digit whole numbers in Unit 3 and additional fraction operations in Unit 5.

Unit 3 Multi-digit Multiplication and Division and Financial Literacy

Students continue to develop proficiency with positive rational number computations. They represent multi-step story problems using equations. This unit is placed near the middle of Grade 5 so that students gain greater fluency and efficiency multiplying and dividing multi-digit whole numbers before they multiply and divide with decimals in Unit 4. In Sub-Unit 4, students' work with financial literacy, such as understanding different kinds of taxes and different methods of payment, allows them to explore beginning concepts of the free enterprise economic system.

- **The work students embark on in Unit 3 builds upon their understanding of** multiplication and division of multi-digit decimals from Grade 4.
- **Unit 3 work is necessary to prepare students for further work as they** multiply and divide with decimals in Unit 4 and convert measurements within the same measurement system in Unit 5.

Unit 4 Place Value Patterns and Decimal Operations

Students further their understanding of decimal place value, add and subtract decimals fluently, and develop strategies for multiplying and dividing decimals. This unit is placed near the middle of Grade 5 as students' work with multi-digit, whole number multiplication and division helps prepare them to extend these operations to decimals.

- **The work students embark on in Unit 4 builds upon their understanding of** multi-digit multiplication and division from Unit 3.
- **Unit 4 work is necessary to prepare students for further work with** convert units of measurement within the same measurement system in Unit 5.

Unit 5 Measurement, Fraction Operations, and Data

Students solve problems involving measurement conversions within the same measurement system. They extend their understanding of fraction operations to now add and subtract fractions. Students also represent and interpret data. This unit is placed near the end of Grade 5 so students can apply what they have previously learned to these topics.

- **The work students embark on in Unit 5 builds upon their understanding of** problem solving involving all four operations as they solve one- and two-step problems using data frequency tables, dot plots, bar graphs, stem-and-leaf plots, and scatterplots.
- **Unit 5 work is necessary to prepare students for further work with** measurement as they convert measurements within the same measurement system using proportions and unit rates and represent numeric data using more types of data representations in Grade 6.

Unit 6 Geometry and Algebraic Reasoning

Grade 5 ends with students classifying two-dimensional figures in a hierarchy based on attributes and properties and graphing points in the first quadrant of the coordinate plane. Unit 6 is placed strategically at the end of Grade 5 to prepare students for more geometric, algebraic, and ratio reasoning in Grade 6.

- **The work students embark on in Unit 6 builds upon their understanding of** attributes of two-dimensional shapes from prior grades, input-output tables from Grade 4, and number patterns from Grade 4.
- **Unit 6 work is necessary to prepare students for further work with** graphing points in all four quadrants of the coordinate plane, connecting the geometric attribute of area to expressions and formulas, connecting multiplicative patterns to ratios and the rule $y = ax$, and connecting additive patterns to the rule $y = x + a$ in Grade 6.

A curiosity-driven program that builds students' lifelong math proficiency

As we developed Amplify Desmos Math Texas, we asked ourselves: how can we support teachers in creating a collaborative classroom of learners excited about math?

With that question in mind, we built the program around four core tenets:

A structured approach to problem-based learning

The program thoughtfully combines conceptual understanding, procedural fluency, and application. Each lesson is designed to tell a story by posing problems that invite a variety of approaches before guiding students to synthesize their understanding of the learning goals.

The Teacher Edition provides guidance for teachers to anticipate and monitor strategies students may use, select and sequence students' ideas, and orchestrate productive discussions to help students make connections between their own ideas and those of their classmates.¹

Proficiency Progression

Lessons are designed around what we call the Proficiency Progression, a model that systematically builds on students' curiosity to develop lasting grade-level understanding.

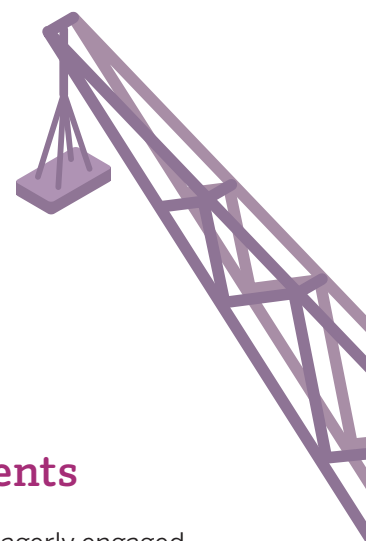
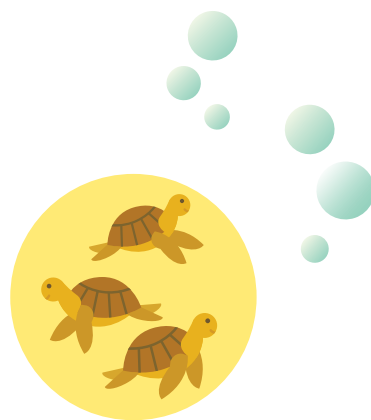
- 1 Activate students' prior knowledge and curiosity
- 2 Generate new ideas through collaboration
- 3 Refine ideas using facilitation tools
- 4 Guide to grade-level understanding
- 5 Practice, reinforce, remediate, and extend for lasting understanding

Access to grade-level math for every student, every day

Tasks in each lesson are thoughtfully sequenced so that all students can engage with the math each day without any roadblocks. Every lesson includes suggestions for accessibility and differentiation to support, strengthen, and stretch students' understanding.

We also provide additional resources that integrate seamlessly with core instruction, including a suite of assessments, tailored practice resources that adjust to students' learning, and other intervention solutions. Cohesive differentiation and intervention resources support and challenge students on their path toward deeper understanding of the learning goals, ensuring all students can keep up with or stretch beyond grade-level math.





Students' thinking is valuable and can be made evident

Students take an active role in developing their own ideas first and then synthesize them as a class. To guide the learning process, students see each other's thinking, engage in conversations, and connect to each other through the understanding that they can use math to make sense of the world. This fuels classroom conversations and a shared understanding of math.

Rather than evaluating ideas as simply right or wrong, Responsive Feedback™ shows students what their ideas mean in context and offers opportunities for students to learn from each other's responses.² This feedback encourages students to explore different strategies and make sense of a variety of responses, so that students' ideas drive the learning process.

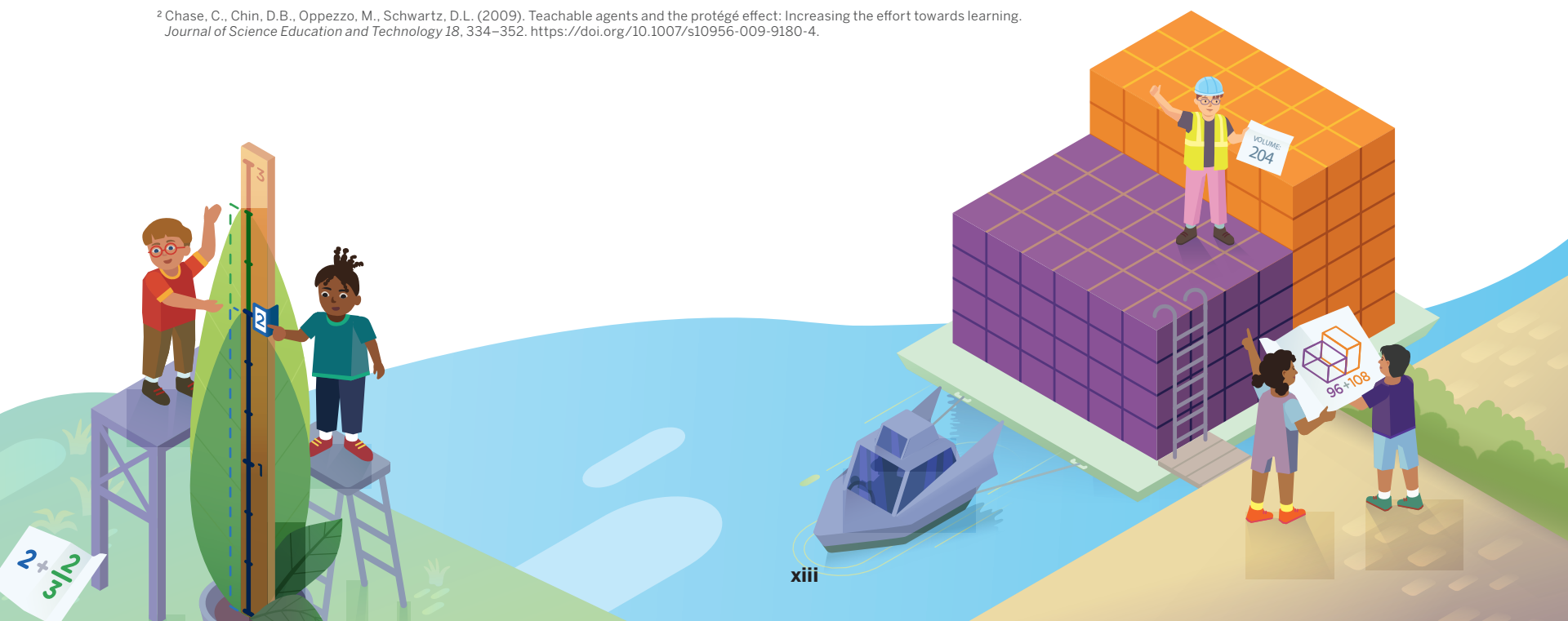
Math that motivates students

Picture a classroom where students are so eagerly engaged in a lesson, they wish it would not end. It is buzzing with the sounds of natural curiosity. There is an audible groan from students when their screens are paused. This is what an Amplify Desmos Math Texas classroom looks like and sounds like. This is math that motivates.

Our curriculum supports social classrooms, invites mathematical creativity, and evokes wonder, empowering students to see themselves and their classmates as having brilliant mathematical ideas.

¹ Smith, M.S., & Stein, M.K. (2018). *5 practices for orchestrating productive mathematics discussions* (2nd ed.). SAGE Publications.

² Chase, C., Chin, D.B., Oppezzo, M., Schwartz, D.L. (2009). Teachable agents and the protégé effect: Increasing the effort towards learning. *Journal of Science Education and Technology* 18, 334–352. <https://doi.org/10.1007/s10956-009-9180-4>.



Scope and Sequence | Grades K–5

Volume 1				
	Unit 1	Unit 2	Unit 3	Unit 4
Kindergarten 140 days total	Beginning Number Concepts 18 instructional days 3 assessment days 21 days total	Numbers 1–10 22 instructional days 4 assessment days 26 days total	Shapes, Coins, and Financial Literacy 17 instructional days 3 assessment days 20 days total	Understanding Addition and Subtraction 20 instructional days 3 assessment days 23 days total
Grade 1 146 days total	Adding, Subtracting, and Working With Data 16 instructional days 4 assessment days 20 days total	Story Problems Within 10 20 instructional days 5 assessment days 25 days total	Adding and Subtracting Within 20 20 instructional days 5 assessment days 25 days total	Numbers to 99 and Financial Literacy 19 instructional days 5 assessment days 24 days total
Grade 2 148 days total	Working With Data and Developing Financial Literacy 18 instructional days 5 assessment days 23 days total	Adding and Subtracting Within 100 25 instructional days 5 assessment days 30 days total	Measuring and Solving Problems Using Length 12 instructional days 4 assessment days 16 days total	Numbers to 1,200 15 instructional days 4 assessment days 19 days total
Grade 3 127 days total (+1 optional day)	Introducing Multiplication 24 instructional days 5 assessment days 29 days total	Adding, Subtracting, and Rounding Larger Numbers 22 instructional days 5 assessment days 27 days total	Relating Multiplication to Division 17 instructional days 4 assessment days 21 days total	
Grade 4 127 days total	Fraction Equivalence and Comparison 15 instructional days 4 assessment days 19 days total	Extending Operations to Fractions 9 instructional days 2 assessment days 11 days total	From Hundredths to One Billion 23 instructional days 5 assessment days 28 days total	
Grade 5 111 days total (+3 optional days)	Volume, Factors, and Expressions 14 instructional days 4 assessment days (+3 optional days) 21 days total	Multiplying and Dividing Fractions 10 instructional days 3 assessment days 13 days total	Multi-digit Multiplication and Division and Financial Literacy 17 instructional days 5 assessment days 22 days total	

Volume 2

Unit 4

Unit 5

Unit 6

Unit 7

Make and Break Apart Numbers Within 10

15 instructional days
3 assessment days

18 days total

Numbers 0–20

12 instructional days
3 assessment days

15 days total

Solid Shapes All Around Us

14 instructional days
3 assessment days

17 days total

Numbers to 120

13 instructional days
4 assessment days

17 days total

Length Measurement Within 120 Units

12 instructional days
3 assessment days

15 days total

Geometry and Time

16 instructional days
4 assessment days

20 days total

Geometry and Time

18 instructional days
4 assessment days

22 days total

Adding and Subtracting Within 1,000

21 instructional days
3 assessment days

24 days total

Equal Groups and Area

11 instructional days
3 assessment days

14 days total

Fractions as Numbers

15 instructional days
5 assessment days
(+ 1 optional day)

21 days total

Measurement and Financial Literacy

13 instructional days
4 assessment days

17 days total

Sorting and Classifying Shapes

9 instructional days
3 assessment days

12 days total

Mathematical Relationships and Financial Literacy

19 instructional days
4 assessment days

23 days total

Multiplying and Dividing Multi-Digit Numbers

22 instructional days
4 assessment days

26 days total

Angles and Properties of Shapes

16 instructional days
4 assessment days

20 days total

Place Value Patterns and Decimal Operations

17 instructional days
4 assessment days

21 days total

Measurement, Fraction Operations, and Data

17 instructional days
4 assessment days

21 days total

Geometry and Algebraic Reasoning

12 instructional days
4 assessment days

16 days total

Alternate Calendar Suggestions

165 Instructional Days

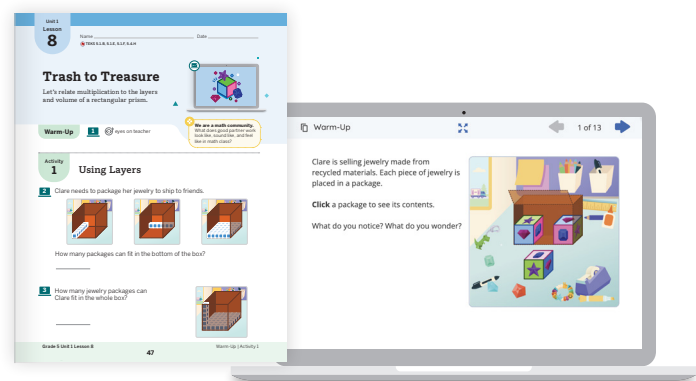
- Refer to the Pacing Considerations on the Unit Overview pages, where you can find unit-specific guidance to which lessons and activities can be skipped or combined.

210 Instructional Days

- Consider supporting students before or after quizzes and assessments with Centers and other resources noted in the Assess & Respond pages.
- Consider adding a day of practice focus per week, utilizing the lesson practice, spiral practice, Fluency, and/or Additional Practice.

Program Resources

For Students



- Student Edition (two-volume)
- Digital access to interactive digital student screens, practice, and assessments
- Responsive Feedback™
- Collaboration tools like Challenge Creators and Polygraphs
- Boost Personalized Learning

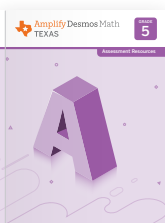
Student materials available in Spanish

For Teachers



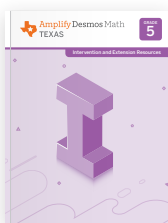
- Teacher Edition (two-volume)
- Digital access to planning and instruction resources including teacher moves in Spanish
- Teacher Presentation Screens
- Facilitation and progress-monitoring tools
- Assessment and reporting suite, including Benchmarks and Progress Monitoring

Additional Resources



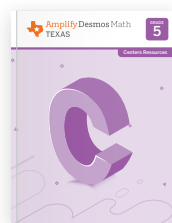
Assessment Resources

- Unit Assessments
- Show What You Know Lesson Assessments
- Rubrics and Teacher Answer Keys
- Activity PDFs



Intervention and Extension Resources

- Mini-Lessons
- Extensions



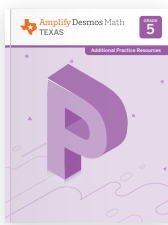
Centers Resources

- Centers PDFs
- Work Mats, Cards, and Grids



Math Language Development Resources

- Graphic Organizers, Frayer models, Sentence Frames
- English/Spanish Cognates, Word Banks, and Glossary
- Proficiency-levelled Supports



Additional Practice

- Two pages of student practice per lesson
- Teacher Answer Keys
- Optional student workbook available

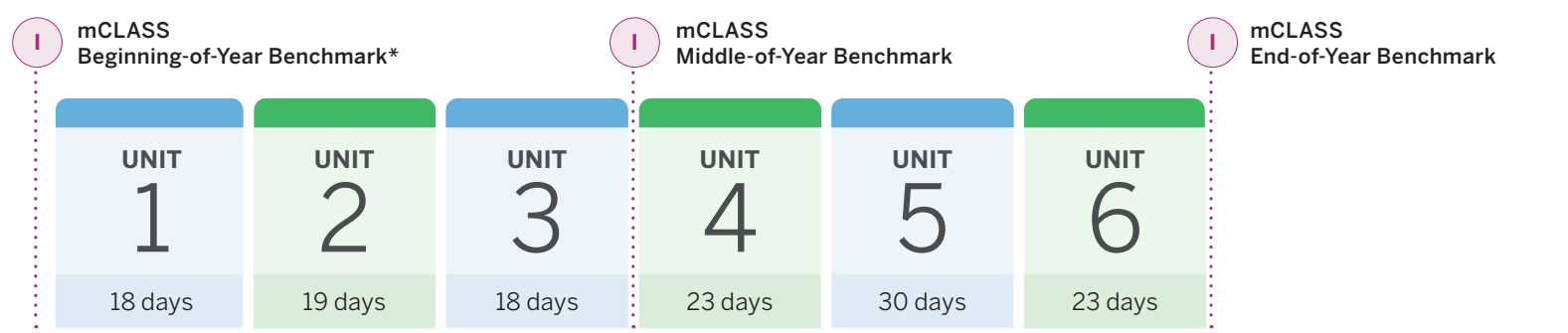
Optional: Manipulative Kits and Centers Kits



hand2mind

Program Architecture

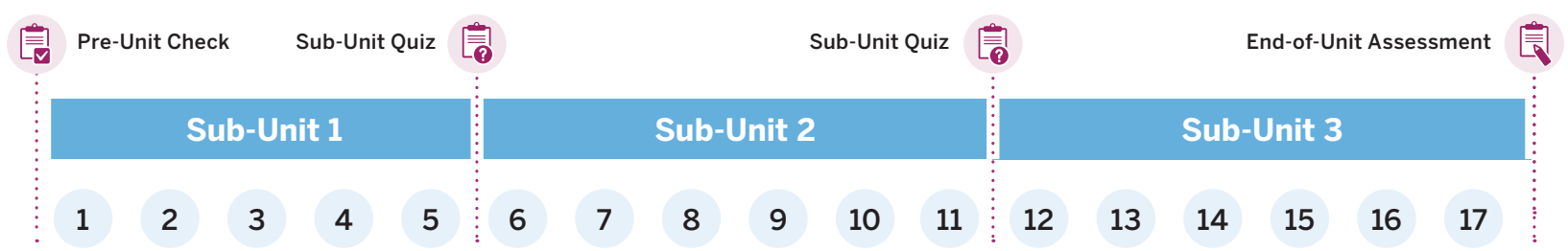
Course



Note: This depiction shows the general structure of a course. The number of lessons varies from unit to unit. See Scope and Sequence pages for the full program scope.

*A brief but powerful mCLASS Beginning-of-Year Screener is provided when mCLASS Benchmark is not included.

Unit



Note: The number of sub-units, lessons, and quizzes within each unit varies. This depiction shows the general structure of a unit. See the course Table of Contents for more details.

Lesson



Navigating This Program



Once you have logged into the digital program, you can launch a guided tour with helpful navigation tips.

Unit & Sub-Unit Resources

Each unit includes a range of resources designed to support teachers in thinking through the progression of mathematics that students will engage with over the course of the unit. These resources can support teachers in their unit planning, as well as choices they make in response to students' thinking, strengths, and needs that arise over the course of the unit.

Unit at a Glance

Explore

Filling Containers: Launch the unit with a non-routine task to investigate the question, "Which container has the greatest capacity?"

Assess and Respond

Sub-Unit 1

A Pre-Unit Check

Learn more about your students' understanding of foundational concepts and skills that will support them in the upcoming unit. This can be given in its entirety before the unit or spread throughout the unit.

TEKS 3.6.C, 4.4.D, 4.5.C
TEKS 5.1.D, 5.1.G

1 Explore: Filling Containers

Which container has the greatest capacity?

Apply measurement concepts to determine the relative capacities of containers.

TEKS Building Toward 5.6.A
TEKS 5.1.B, 5.1.C, 5.1.D

2 Which Is Largest?

Defining Volume

Explore volume by building and comparing figures with standard unit cubes.

TEKS 5.6.A
TEKS 5.1.E, 5.1.G

3 Cube Figures

Developing Strategies to Determine Volume

Describe the layered structure of a rectangular prism and develop strategies to determine the volumes of rectangular prisms.

TEKS 5.6.A
TEKS 5.1.E, 5.1.G

Assess and Respond

7 Shipping Out Trash

Representing and Solving Problems Related to Area and Volume

Determine the volumes of rectangular prisms by developing and using the formulas: $V = l \times w \times h$, $V = Bh$, and $V = c \times s \times e$.

TEKS 5.4.H
TEKS 5.1.A, 5.1.C, 5.1.D, 5.1.E, 5.1.G

8 Trash to Treasure (Optional)

Using Multiplication to Calculate Volume

Determine the volumes of partially filled or completely packed rectangular prisms and represent the volumes with different multiplication expressions.

TEKS 5.4.H
TEKS 5.1.B, 5.1.E, 5.1.F

9 Figures Made of Prisms (Optional)

Determining Volume of Figures in Different Ways

Determine the volumes of figures composed of rectangular prisms, in which unit cubes are visible, using different strategies.

TEKS 5.4.H
TEKS 5.1.F, 5.1.G

A Quiz: Sub-Unit 2

Learn about your students' understanding of the concepts and skills so far in this unit.

TEKS 5.4.G, 5.4.H, 5.6.B
TEKS 5.1.A, 5.1.D, 5.1.G

Assess and Respond

14 A Number Game

Applying Factors, Multiples, and Prime and Composite Numbers

Determine factor pairs and multiples for a chosen number between 10 and 100.

TEKS 5.4.A
TEKS 5.1.D, 5.1.F

15 Operation: Organize and Order!

Introducing Order of Operations

Determine the values of expressions without grouping symbols using the order of operations.

TEKS 5.4.F
TEKS 5.1.B, 5.1.F, 5.1.G

16 Numbers Work In Groups

Describing the Meaning of Parentheses and Brackets

Describe the meaning of parentheses and brackets within an expression and simplify to determine the value.

TEKS 5.4.E, 5.4.F
TEKS 5.1.B, 5.1.G

17 Super-Sized Equations

Representing Multi-Step Story Problems With Expressions that Include Parentheses

Use expressions that include grouping symbols to represent multi-step story problems involving volume.

TEKS 5.4.E, 5.4.H
TEKS 5.1.A, 5.1.D, 5.1.F, 5.1.G

Grade 5 Unit 1 18 Unit at a Glance

All lessons can be taught using the Student Edition while the teacher projects Presentation Screens. We recommend students use devices to interact with some lessons, as indicated with

Pacing: 21 days | Short on time? See pacing considerations below.

Pre-Unit Check: 20 min
17 Lessons: 60 min each

Sub-Unit Quizzes: 20 min each
End-of-Unit Assessment: 45 min

Assess and Respond

Sub-Unit 2

4 Stacking Garbage

Using the Structure of Rectangular Prisms to Determine Volume

Use and explain the layered structure of a rectangular prism to determine volume of rectangular prisms.

TEKS 5.6.A
TEKS 5.1.E, 5.1.F, 5.1.G

A Quiz: Sub-Unit 1

Learn about your students' understanding of the concepts and skills so far in this unit.

TEKS 5.6.A
TEKS 5.1.G

5 Piled High

Determining Volume Using the Number of Layers and the Area of the Base

Determine the volume of a rectangular prism using information about the area of the base layer and the total number of layers.

TEKS 5.4.H, 5.6.B
TEKS 5.1.D, 5.1.E

6 Volume of Rectangular Prisms

Developing Formulas for Determining Volume

Determine the volume of a rectangular prism without unit cubes and generalize how to determine the volume of any rectangular prism.

TEKS 5.4.G, 5.4.H
TEKS 5.1.B, 5.1.F

Sub-Unit 3

10 How Many Rectangles?

Determining Factor Pairs

Use rectangle side lengths to identify factor pairs for a given whole number area.

TEKS 5.4.H
TEKS 5.1.E, 5.1.F

11 Hamster Homes (Optional)

Real-World Problems Involving Factor Pairs

Solve real-world problems that involve multiples and common multiples.

TEKS Building Toward 5.4.A
TEKS 5.1.B, 5.1.D, 5.1.E

12 How Many Factors?

Introducing Prime and Composite Numbers

Use rectangles to determine whether a number is prime or composite.

TEKS 5.4.A
TEKS 5.1.F, 5.1.G

13 Mystery Numbers

Using Factors and Multiples to Describe and Identify Numbers

Determine factors and multiples of given numbers between 1 and 100.

TEKS 5.4.A
TEKS 5.1.D, 5.1.F

Assess and Respond

A End-of-Unit Assessment

Learn about your students' understanding of the concepts and skills in this unit. There are two forms of the End-of-Unit Assessment: Forms A and B.

TEKS 5.4.A, 5.4.E, 5.4.F, 5.4.G, 5.4.H, 5.6.A, 5.6.B
TEKS 5.1.A, 5.1.D, 5.1.G

Pacing Considerations

End-of-Unit Assessment: This assessment can be given on the same day as the Pre-Unit Check for the next unit.

Lesson 1: This lesson can be omitted. It is an exploration that helps students engage in the unit, but is not essential for meeting required TEKS. If omitted, read and discuss the Unit Story prior to Lesson 2.

Lessons 2 and 3: These lessons can be condensed into 1 lesson.

Grade 5 Unit 1 19 Unit at a Glance

Every unit has a **Unit at a Glance** page which shows teachers everything they need to know to get started planning out their upcoming unit.

We recommend students use **devices** to interact with some lessons. These lessons can be taught using the Student Edition while the teacher projects the screens.

Teachers are provided with thoughtful **pacing considerations** for how they can adjust the pacing of the unit as needed without compromising unit learning goals.

Unit Overview pages

Teachers will find a comprehensive set of resources for each unit, including an overview of the math of the unit, a visual summary of the Unit at a Glance, a preview of each of the unit assessments, and unit guidance for differentiation, Centers, accessibility, language development, materials, technology, and connections to future learning. Each Unit Overview also includes a professional development activity, a formative Pre-Unit Check that teachers can use to assess students' readiness for unit topics, and a Unit Story that provides an engaging narrative to frame students' explorations throughout the unit.

The **Sub-Unit Overview** lists the content and language goals for the unit. This page also provides a visual to show the progression of TEKS coverage in the Sub-Unit.

The mathematical concepts of the unit are presented in student-friendly language on the **Watch Your Knowledge Grow** page, allowing students to monitor their own progress.

Sub-Unit 1

Unit Cubes and Volume

Sub-Unit 1 Goal

Describe and determine the volume of a rectangular prism using its layered structure.

Progression of TEKS in Sub-Unit 1

Lessons 1-4: Students explore the concept of **volume** measurement as they determine the relative capacities of different-sized containers and build three-dimensional figures with unit cubes. They connect a greater volume to a figure that is composed of more unit cubes. They use concrete models and drawings to determine the volumes of rectangular prisms by using and describing the layered structure as arrays of cubes.

Sub-Unit 1 Progression	Lesson 1*	Lesson 2	Lesson 3	Lesson 4
Unit Cubes and Volume				
TEKS 5.6.A				

Coming up Next

Sub-Unit 2, Lessons 5-9:

Algebraic Reasoning: TEKS 5.4.G, 5.4.H

Geometry and Measurement: TEKS 5.6.B

Sub-Unit 3, Lessons 10-17:

Algebraic Reasoning: TEKS 5.4.A, 5.4.E, 5.4.F, 5.4.H

Math That Matters Most

Sub-Unit 1: Describe and determine the volume of a rectangular prism using its layered structure.

Progression of Strategies, Skills, or Language

Progression	For example...
Determining the volumes of three-dimensional figures by counting unit cubes.	<div>The volume is 12 cubic units. There is 1 cube on top, 3 cubes in the next row, and 8 cubes on the bottom arranged in 2 rows.</div> <div>I counted 1-25 cubes in the front, and then I counted 26-50 cubes in the back.</div>
Building rectangular prisms and describing the layered structure of a rectangular prism.	<div>There are 6 unit cubes in 1 layer. The cubes are arranged in 2 rows of 3 unit cubes. There are 5 identical layers of 6 unit cubes stacked on top of each other.</div>
Determining the volume of a rectangular prism by iterating layers of cubes.	<div>The right face of the prism has 20 cubes. There are 6 layers of 20 cubes, so the volume is 120 cubic units.</div>

Unit 1 | Volume, Factors, and Expressions

Watch Your Knowledge Grow (Optional)

Purpose: Students rate their understanding of the concepts that they will explore in this unit, prior to beginning the unit. Return to this page at the end of the unit and invite them to rate their understanding again to see how their knowledge has grown.

Read aloud the instructions. Let students know they are about to explore these math concepts in the upcoming unit. Invite students to rate their understanding of each concept prior to beginning the unit. Let them know that they will return to this page at the end of the unit to rate their understanding again. They will be able to see how their knowledge has grown! Consider asking:

“What do you know about unit cubes? How have you used them before in math class?”

“Have you heard or used the word factor before in math class? If so, what does this word mean to you?”

Emergent Bilinguals Invite students to circle or highlight words that may be unfamiliar to them, such as volume, prime, or composite. Invite them to make a prediction as to what they think each word might mean, using prior knowledge and/or prefixes and suffixes that they might know. For example, they may say that prime might mean something related to being first because of the prefix *prim-*, which comes from the Latin *primus*, meaning first part, beginning stages. Let them know that it is a normal part of learning to not be familiar with words or concepts when they are first learning about them. When they return to this page at the end of the unit, celebrate how their language development has grown! (Listening) **ELPS 3.A.3.E**

Math Identity and Community Let students know that it is a normal part of learning to not understand or be familiar with a topic prior to learning about it. Celebrate the number of “Not yet” and “Almost” bubbles that were selected. Remind students that this means their knowledge can increase greatly after this unit!

Depending on the goals of the Sub-Unit, the **Math that Matters Most** page illustrates for teachers the most important progressions of strategies, skills, and language that happen during the Sub-Unit.

Sub-Unit Overview pages

The lessons within each unit are grouped into sub-units that address a related group of concepts. Each sub-unit starts and ends with pages that focus on the key ideas of the sub-unit.

Grade 5

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Navigating This Program

Navigating This Program

Lesson Supports

Throughout this Teacher Edition, lesson guidance for teachers is organized clearly and consistently so that they have all of the information they need at their fingertips.

In the **Key Concepts** and **Connections and Coherence** sections, teachers will find the goals and language goals for the lesson. There is also information on prior learning that has built to the math in this lesson, as well as future learning that this lesson is helping build to.

Key Concepts

- **Today's Goals**
 1. **Goal:** Develop strategies to determine the volumes of rectangular prisms.
 2. **Language Goal:** Describe the layered structure of a rectangular prism. (Listening, Speaking, and Writing) **ELPS 1.E, 2.E, 2.F, 4.D, 4.F**

Connections and Coherence

- Students compose and decompose rectangular prisms with unit cubes, developing language to describe the layered structure. They use the layered structure to develop more efficient strategies to determine volume and to consider what makes 2 prisms different. (TEKS 5.1.E, 5.1.G)
- ◀ **Prior Learning**

In Lesson 2, students counted the unit cubes making up a solid figure to measure its volume.
 - ▶ **Future Learning**

In Lesson 4, students will determine the volumes of rectangular prisms represented as two-dimensional prisms. They will see that any face on the prism can be considered 1 layer and that each layer is identical.

Integrating Rigor in Student Thinking

- Students continue to build their **conceptual understanding** of volume by examining the structures of rectangular prisms and using the structure to develop strategies to determine volume.

Lesson modality shows teachers how they should plan to have students engage in the lesson.

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



Vocabulary

Review Vocabulary

cubic unit
rectangular prism
unit cube
volume

TEKS

Addressing

5.6.A
Recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a three-dimensional figure as the number of unit cubes (n cubic units) needed to fill it with no gaps or overlaps if possible.
Math Process Standards: 5.1.E, 5.1.G
ELPS: 1.C, 1.E, 2.C, 2.D, 2.E, 2.F, 3.C, 3.D, 3.F, 4.D, 4.F

Building On

3.6.C

Building Toward

5.6.B

5.4.H

Building Math Identity

I can be all of me in math class.
When do you do math outside of school?
Invite students to reflect on this question as they complete this lesson.

Grade 5 Unit 1 Lesson 3

12A

Cube Figures

The **Integrating Rigor in Student Thinking** section explains how students develop conceptual understanding, procedural fluency, and application in this lesson.

The **Standards** section lists all of the applicable standards for the lesson. Both Content and Process TEKS are listed, as well as the relevant ELPS.

Lesson Overview

This introductory page orients teachers to the topic, standards, and key learning goals of the lesson, including any new vocabulary terms that will be introduced.

The **time frame** and suggested **student grouping** is listed for each part of the lesson.

Lesson at a Glance

60 min

TEKS: 5.1.E, 5.1.G, 5.6.A

Warm-Up

Whole Class | 10 min

Students are introduced to the **What Do You Know About ____?** routine, providing all students with the opportunity to share what they already know about rectangular prisms.

Activity 1

Pairs | 15 min

Students review rectangular prisms and build prisms using unit cubes. They describe and compare the structures of rectangular prisms, recognizing that the structure can be used to determine the volume.

Manipulative Kit: connecting cubes
 Materials: chart paper, markers
 Additional Prep Assemble a 3 × 2 × 2 rectangular prism with connecting cubes

Activity 2

Pairs | 20 min

Students are introduced to the **Center Can You Build It?** Rectangular Prisms, in which they compete to build as many different rectangular prisms as possible with a given volume, preparing them for Lesson 4.

Manipulative Kit: connecting cubes, number cards (0–9)
 Materials: folders

Synthesis

Whole Class | 10 min

Students review and reflect on ways to describe the layered structure of rectangular prisms, recognizing that some prisms can look different but have the same volume.

Show What You Know

Independent | 5 min

Students demonstrate their understanding by selecting true statements about the volume of a rectangular prism.

Materials: Show What You Know PDF

Math Language Development

Emergent Bilinguals

Consider using the Math Language Development Resources with the **Activity 1, Monitor** to support math language acquisition.

✓ Cognates
 ✓ Visuals
 ELPS 1.E, 2.B, 2.C, 2.D, 2.E, 2.F, 4.C, 4.D, 4.F
 Grade 5 Unit 1 Lesson 3

Pre-Production

Students **listen** to spoken English and **respond** using their primary languages and gestures.

Beginning

Students **listen** to spoken English and **speak** and **write** using their primary languages, gestures, and single words or short phrases.

Intermediate

Students **listen** to spoken English and **speak** and **write** using short phrases or simple sentences.

High Intermediate

Students **listen** to spoken English and **speak** and **write** using a variety of sentence types.

Advanced

Students **listen** to spoken English and **speak** and **write** using longer sentences. Exemplar responses are provided.

Quickly preview the **Emergent Bilingual proficiency-levelled supports** for this lesson. Refer to the *Math Language Development Resources* book for more information.

The screen icon is used to show which **Presentation Screens** or **Digital Student Screens** align to each instructional moment.

Whole Class | 10 min

Presentation Screen

Lesson 3 Warm-Up

Warm-Up What Do You Know About ____?

Purpose: Students share ideas about rectangular prisms, preparing them to connect the layered structure to strategies for determining a prism's volume.

What do you know about rectangular prisms?

1 Launch

Display the question.

Use the **What Do You Know About ____?** routine.

Ask: "What do you know about rectangular prisms?"

Invite students to share their responses.

2 Connect

Record students' responses as they share and leave them displayed throughout the lesson.

Ask: "How are rectangular prisms similar to the figures you built in the previous lesson? How are they different?"

Students might say . . .

ELPS 1.E, 2.C, 2.D, 2.F
 I know that rectangular prisms are solid shapes.
 I know that rectangular prisms have 6 sides or faces.
 I know that each face of a rectangular prism is a rectangle.

Examples of what **students might say** in response to the Warm-Up prompt are provided to help teachers prepare to facilitate the conversation.

Lesson at a Glance

The Lesson at a Glance page describes the purpose of the Warm-Up, Activities, Synthesis, and Show What You Know. Teachers will find suggested timing for each part of the lesson, as well as guidance on whether students should work individually, in pairs, in small groups, or with the whole class.

The page also lists which Student Edition pages, Presentation Screens, or Digital Student Screens can be used with each part of the lesson, as well as any hands-on materials that may be needed.

Warm-Up

Every Amplify Desmos Math Texas lesson begins with a whole-class Warm-Up, an invitational Instructional Routine intended to provide a social moment at the start of the lesson in which every student has an opportunity to contribute. Some Warm-Ups build fluency or highlight a strategy that may be helpful in the current lesson. Other Warm-Ups act as an invitation into the math of the lesson. The Warm-Up for the first lesson of each unit introduces the Unit Story for the unit.

Navigating This Program

The **Purpose** of each activity is highlighted here, as well as suggestions for the **student grouping**, **time frame**, and **screen pacing** for the activity.

Teachers are provided with thoughtful **Short on time?** suggestions for how they can adjust the pacing of the lesson as needed without compromising lesson goals.

Each lesson notes the corresponding **Teacher Presentation Screens** or related **Student Edition** pages also available to support the lesson.

For every activity, teachers will see the **corresponding student digital screens** or **Student Edition pages**, based on the recommended lesson modality.

Pairs

20 min

Lesson 12
Activity 1

Student Edition

Activity 1 One or More Factor Pairs

Purpose: Students determine all the factor pairs of several numbers, recognizing that some only have 2 factors. This leads them to distinguish between prime and composite numbers.

1 Launch

Read aloud Problem 1.

Ask, “What would you write for the factor pairs of 4? What would you write for the individual factors of 4?”

Emergent Bilinguals Display sentence frames, such as, “One factor is _____ and it goes with _____ because . . .” **ELPS: 3.F**

Say, “You can use inch tiles or grid paper if you find it helpful for determining the factor pairs.”

2 Monitor

After students have completed **Problem 1**, refer to the **Differentiation | Teacher Moves** table on the following page.

If students need help getting started . . .

- Ask, “What strategies can you use to determine the factor pairs of a given number?”
- Ask, “How do you know when you have found all the factor pairs of a number?”

3 Connect

Display the table and record responses as students share.

Invite one pair to share which number they believe has the most factors for Problem 2, and have the class give a signal if they agree. Be sure to hear the reasoning of any students who disagree. Repeat for the numbers with the fewest factors.

Ask, “What do you notice about all the numbers that have only 2 factors?”

Ask (if not yet mentioned), “Do all odd numbers have only 2 factors? What about 33?”

Key Takeaway: Say, “**Prime numbers** have exactly 2 factors: 1 and the number itself. **Composite numbers** have more than 2 factors.”

How Many Factors?

Let's categorize numbers by how many factors they have.

Warm Up eyes on teacher

Activity 1 One or More Factor Pairs

1 Hands-On Determine all the factor pairs for each number in the table. Write the factor pairs as multiplication expressions and then list all the individual factors. **The factors in the pairs may be in any order.**

Number	Factor pairs	Factors
4	$1 \times 4, 2 \times 2$	1, 2, 4
7	1×7	1, 7
17	1×17	1, 17
28	$1 \times 28, 2 \times 14, 4 \times 7$	1, 2, 4, 7, 14, 28
33	$1 \times 33, 3 \times 11$	1, 3, 11, 33
36	$1 \times 36, 2 \times 18, 3 \times 12, 4 \times 9, 6 \times 6$	1, 2, 3, 4, 6, 9, 12, 18, 36

Grade 5 Unit 1 Lesson 12 76

One or More Factor Pairs (continued)

2 Discuss

- Which numbers in the table have the **fewest** number of factors?
- Which numbers in the table have the **greatest** number of factors?

Oral activity: No writing expected. **Sample response shown:** 7 and 17 have the **fewest** number of factors. 28 and 36 have the **greatest** number of factors.

Grade 5 Unit 1 Lesson 12 77

D Differentiation | Teacher Moves

Presentation Screens

Look for students who . . .	For example . . . (36)	Provide support . . .
Almost there Identify some of the factor pairs of a given number.	$1 \times 36, 2 \times 18, 3 \times 12$	Support Ask, “How can you be sure that you determined all the factor pairs of this number?”
Identify all the factor pairs of a given number.	$1 \times 36, 2 \times 18, 3 \times 12, 4 \times 9, 6 \times 6$	Stretch Ask, “Would the number 72 have more or fewer factor pairs than 36?”

Grade 5 Unit 1 Lesson 12

76–77

Activity 1

Grade 5 Unit 1 Lesson 12

77A

Activity 1

In the **Launch, Monitor, Connect** guidance, teachers will find ways to help students get started, suggested facilitation moves, and discussion questions.

The **Key Takeaway** is called out to highlight the learning goal of the activity and provide teachers with an example of how to frame the big idea of the activity for students.

The guidance for every activity includes a **Differentiation Teacher Moves** table to support teachers in meeting the needs of all students during the activity. This table can help teachers anticipate the ways students may approach the activity, and provides prompts that they can use during the lesson to **Support**, **Strengthen**, and **Stretch** individual students in their thinking.

Activities

Each lesson includes one or two activities. These activities are the heart of each lesson. Students notice, wonder, explore, calculate, predict, measure, explain their thinking, settle disputes, create challenges for their classmates, and more.

Guidance is provided to help teachers Launch, Monitor, and Connect students' thinking over the course of each activity. Teachers will also find suggestions for pacing, facilitation moves, discussion questions, examples of early student thinking, and ideas for students who may enjoy a challenge, as well as opportunities to build and develop the math community in their classroom.

Whole Class

10 min

Presentation Screens

Lesson 12 Synthesis

Synthesis

Lesson Takeaway: **Composite numbers** have more than 2 factors, and **prime numbers** have only 2 factors. The numbers 1 and 0 are neither prime nor composite.

Lesson Synthesis

Ask, “Which of the numbers are prime and which are composite? How do you know?”

Play the animation. **ELPS 1.F**

Say, “Any whole number greater than 0 with more than 2 factors is a **composite number**. Any whole number greater than 0 with only 2 factors is a **prime number**. The number 1 only has 1 factor, so it is neither prime nor composite.”

Formalize vocabulary: **composite number**, **prime number**

(optional) Consider using the **Frayer Model** routine with one or more of the new vocabulary words. **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 PDF

Show What You Know

Number

Prime or composite?

1	neither
2	prime
3	prime
4	composite

Today's Goals

- Goal:** Identify prime and composite numbers
 - In the *Show What You Know*, students identified whole numbers as prime or composite.
- Language Goal:** Determine and explain whether a given whole number is prime or composite. (**Listening, Speaking, and Writing**) **ELPS 1.B, 2.B, 2.E, 4.C, 4.D, 4.F**

Differentiation

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

Grade 5 Unit 1 Lesson 12

80A

Synthesis | Show What You Know

Lessons conclude with an opportunity for students to reflect on the main learning goals and “**show what they know**,” either in print or digitally. This is a great way for both students and teachers to get a formative check for understanding.

Synthesis

The Synthesis is an opportunity for the teacher and students to pull all the learning of the lesson together into a lesson takeaway. Students engage in a facilitated discussion to consolidate and refine their ideas about the learning goals, and the teacher synthesizes students’ learning.

Each **Lesson Practice** begins with a **Summary** of the big ideas in the lesson, often including a worked example. Students can highlight parts of the summary or share it with a caregiver or classmate.

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.

Lesson 12 Practice

Students using digital

Students using print

Summary 1.12

Write each number in the box that it belongs to: 2 factors are composite numbers. Whole numbers greater than 0 with only 2 factors are prime numbers. The number 1 has only 1 factor, so it is neither prime nor composite.

prime number	composite number
1	24
1 × 1	1 × 24, 2 × 12, 3 × 8, 4 × 6
Factor: 1	Factors: 1, 24
Factor: 1	Factors: 1, 2, 3, 4, 6, 8, 12, 24

composite number: a number that has more than 2 factors

Practice 1.12

- Complete the table to determine whether each number is prime or composite. **Sample responses shown.**

Factor pairs	Prime or composite?	How do you know?
37	1 × 37	prime 2 factors
27	1 × 27 3 × 9	composite more than 2 factors
47	1 × 47	prime 2 factors
77	1 × 77 7 × 11	composite more than 2 factors

Practice 1.12

- Determine whether each number is prime or composite. Place a check mark in the correct column.

	Prime	Composite
2	<input checked="" type="checkbox"/>	<input type="checkbox"/>
15	<input type="checkbox"/>	<input checked="" type="checkbox"/>
35	<input type="checkbox"/>	<input checked="" type="checkbox"/>
42	<input type="checkbox"/>	<input checked="" type="checkbox"/>
53	<input checked="" type="checkbox"/>	<input type="checkbox"/>
100	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- Circles are medium-sized insects. Some cicadas spend 13 to 17 years underground before they come above ground in very large amounts. Determine whether each number 13 and 17 is prime or composite. Select **ONE** correct answer in each box to complete the sentence.

13 is ☒ prime ☐ composite number

17 is ☐ prime ☒ composite number

- There are 44 countries in Europe and 23 countries in North America. Complete the table to determine whether each number is prime or composite.

Factor pairs	Prime or composite?
44	1 × 44, 2 × 22, 4 × 11
23	1 × 23

Practice Problem Item Analysis

Problem(s) DOK

TEKS

On-Lesson	1, 2	1	5.4.A
Test Practice	3	2	5.4.A
	4	1	5.4.A
Spiral Review	5–9	1	4.3.B
Fluency	10	2	4.4.E, 4.4.H

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).

Grade 5 Unit 1 Lesson 12

80–82

Practice

A **Practice Problem Item Analysis** table breaks down the problems by type, Depth of Knowledge (DOK), and corresponding standards. Practice problems labeled as Test Practice help prepare students for the state assessment.

Lesson Practice

Daily practice problems for the day’s lesson are included in the print Student Edition, including Fluency, State Test Practice, and Spiral Review.

Stretch lists challenge opportunities for students who are ready to extend their learning.

Professional Learning callouts feature questions and prompts designed to help teachers reflect on how students' thinking developed over the course of the lesson.

Digital resources designed to Support, Strengthen, and Stretch student learning include Boost Personalized Learning, Fluency Practice, and Math Adventures.

A **Differentiation** table suggests specific teacher moves and resources to support students' understanding based on their responses to assessment problems.

Each unit typically includes one or two Sub-Unit Quizzes. Quizzes are designed for students to show what they know and can do based on what they have learned so far in the unit. Each unit includes Assess and Respond guidance for the Pre-Unit Check, Sub-Unit Quizzes, and End-of-Unit Assessment.

Facilitating Lesson Activities

Launch, Monitor, Connect

Amplify Desmos Math Texas is designed with a structured approach to problem-based learning that systematically builds on students' curiosity. Students are first invited to explore problems that create an intellectual need for new mathematical ideas. Then the teacher builds on strategies used by students and connects their ideas to the learning goals of the lesson. This approach is an interpretation of Smith and Stein's 5 Practices for Orchestrating Productive Mathematics Discussions.

1 Launch



The Launch is a short, whole-class conversation that creates a need or excitement, provides clarity, or helps students connect to their prior knowledge or personal experience, which ensures that everyone has access to the upcoming work.

Considerations for Launching

- Try to keep it short. Set students up to get started with a clear and catchy invitation to the math.
- Don't model a specific way to solve. Leave space for a variety of different student approaches.
- Pair up. Encourage small groups of students to talk through their thinking as they work.

2 Monitor



As students work individually, in pairs, or in groups, teachers explore students' thinking, ask questions, and provide support to help move the conversations closer to the intended math learning goal.

Considerations for Monitoring

- Look for students' strategies and check in with students as they work.
- Ask questions to learn what students are thinking. The suggested differentiation moves can be used to support, strengthen, and stretch their ideas.
- Use the Differentiation Teacher Moves table to help select and sequence students' ideas to highlight during the Connect discussion.

3 Connect



Teachers connect students' ideas to the key learning goals of the lesson, facilitating class discussions that help students synthesize and solidify the big ideas.

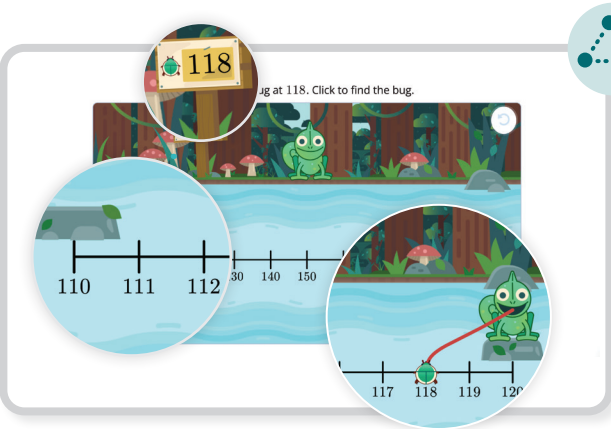
Considerations for Connecting

- Save a few minutes at the end of each lesson activity to bring students back together to discuss.
- As soon as you find you're ready to have discussions about common strategies, bring the class back for the connect. Often, this is before all students have finished on work.
- Students will be able to contribute to the discussion and learn from their classmates based on their in-progress work.
- Center discussions on students' ideas by displaying one or more of their responses and connecting the responses to the Key Takeaway of the activity.

🕒 **Considerations for Pacing:** Pacing will vary by activity. Teachers can typically plan on spending 1–3 minutes for the Launch and 5–8 minutes for the Connect, and the remainder for the Monitor depending on the suggested length of the activity.

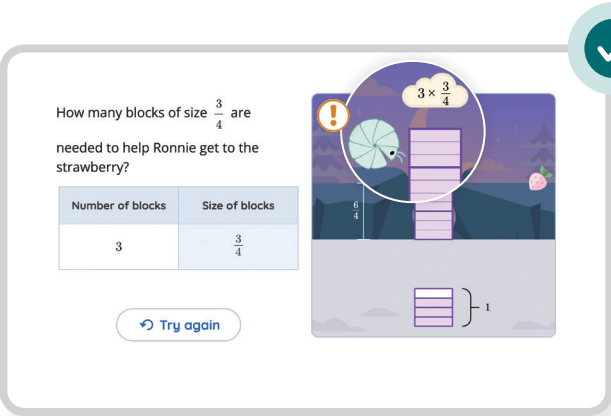
The Power of Digital

Lessons include visual and dynamic interactions that pique students’ interest and invite all students to engage in the mathematics. The embedded interactions and animations allow students to test predictions, get feedback, share ideas, and connect representations.



Delightful, engaging interactions

The digital interactions included in the lesson activities are designed to elicit students’ thinking in a way that feels fun and inviting. As students play and explore math concepts, teachers can highlight the ideas that students share, connect those ideas to other students’ ideas, and build on their thinking through productive class discussion.



Responsive Feedback™

In Amplify Desmos Math Texas, students are invited to try their thinking out — even if that thinking is still in the “rough draft” phase. As students interact with the digital screens, they see visuals and simulations that respond faithfully to their inputs. This meaningful feedback allows students to experience the joy of causing the animation to react to their mathematical ideas. As a result, students may notice interesting things about both correct and incorrect answers more readily.

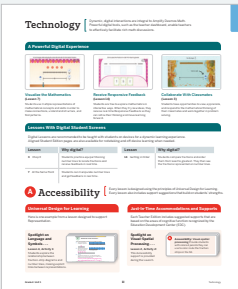


Social, collaborative experiences

Digital tools allow students to interact with each other’s ideas in a variety of ways. Students can use the “Share With Class” button to exchange ideas with each other directly on an activity screen. Activities like Challenge Creator and Polygraph offer fun ways for students to play with the math together. Whether working solo or in tandem on devices, students are never alone as they work through activities.

Digital Lesson Recommendations

Check out the Technology page at the beginning of every unit to learn which lessons are recommended to be taught with students using devices for a dynamic learning experience. Lessons with digital student screens have been carefully selected, and the amount of these lessons increases developmentally across grade levels. If needed, aligned Student Edition pages are also available for notetaking and offline learning.

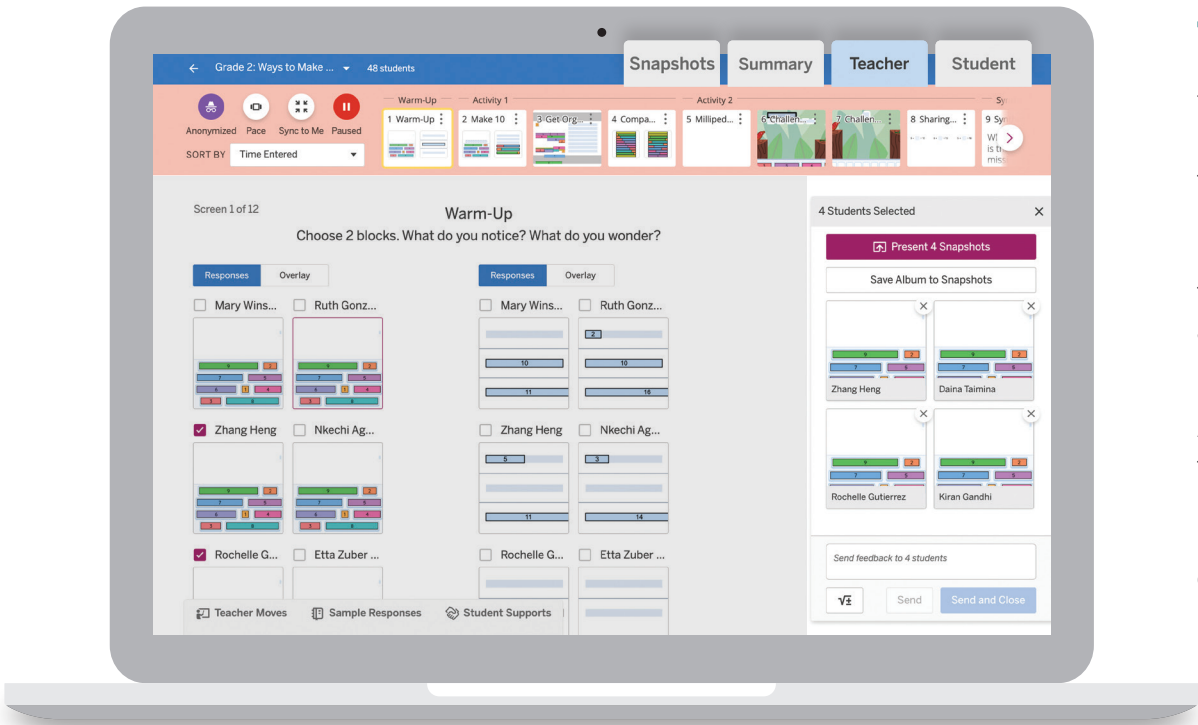


Presentation Screens

Print lessons also benefit from the power of digital. Teachers display Presentation Screens that include important animations and interactions to help guide and facilitate students’ learning.

Digital Facilitation Tools

Amplify Desmos Math Texas includes a suite of digital facilitation tools for lessons that are recommended to have students using devices. These tools foster collaborative classrooms and help teachers share their students' thinking.



Teacher Dashboard

The dashboard gives the teacher insight into students' thinking in real time. Teachers can zoom in on a particular student or view all students' responses at once. This can help to identify students that may need additional support and those who are ready for extensions.

After reviewing students' thinking, teachers can select and display specific ideas or the distribution of responses to invite students into productive, student-centered discussions.

Snapshot View

Select and sequence students' work to connect mathematical ideas. Teachers can even add their own questions to prompt further thinking.

Summary View

Monitor students' progress or accuracy for a set of screens. Click into any box to see a specific student's work on that screen.

Teacher View

Answer questions such as:

- How did all students answer this question?
- What answers were most common?

Student View

Preview screens for students. For example, the teacher might work through a screen with the class or talk through upcoming screens before students work on their own.

A powerful conversation toolkit

Pacing, pausing, and sync tools can support teachers as they encourage mathematical discourse and collaborative thinking in their classes.



Anonymize swaps out students' names to help them feel more comfortable sharing their ideas. Students' names are replaced by the names of famous mathematicians, with a special emphasis toward mathematicians with diverse backgrounds.



Pace allows the teacher to make a certain number of screens available for students to work on.



Sync to Me enables the teacher to bring all students to the same screen.



Pause stops students from working so that the teacher can gather everyone's attention for discussion.

A screenshot of the Amplify Desmos Math Texas Teacher Dashboard showing a table of student progress. The table has columns for student names and activity status. The 'Warm-Up' activity is selected, and the table shows progress for various students. The table is as follows:

Student Name	Warm-Up	Activity 1	Activity 2
Mary Winston Jackson	•	×	—
Ruth Gonzalez	•	✓	—
Zhang Heng	•	×	—
Nkechi Agwu	•	×	—
Rochelle Gutierrez	•	✓	—
Etta Zuber Falconer	•	•	—
Kiran Gandhi	•	•	—
Dorothy Vaughan	•	✓	—

Instructional Routines

Instructional routines that are used repeatedly create efficiencies for teachers so that they can attend to student thinking and communicate what is important in their classroom. Instead of focusing on the directions of an activity, students can focus on making sense of and communicating about the math.



Here are some examples:

- The **Which One Doesn't Belong?** routine communicates to students that their ideas have value, that there are many ways to be correct in math, and that they can learn math by sharing their math thinking with each other.
- The **Stronger and Clearer Each Time** routine communicates the importance of feedback and creates an opportunity for students to learn from each other as they construct and refine their viable arguments.

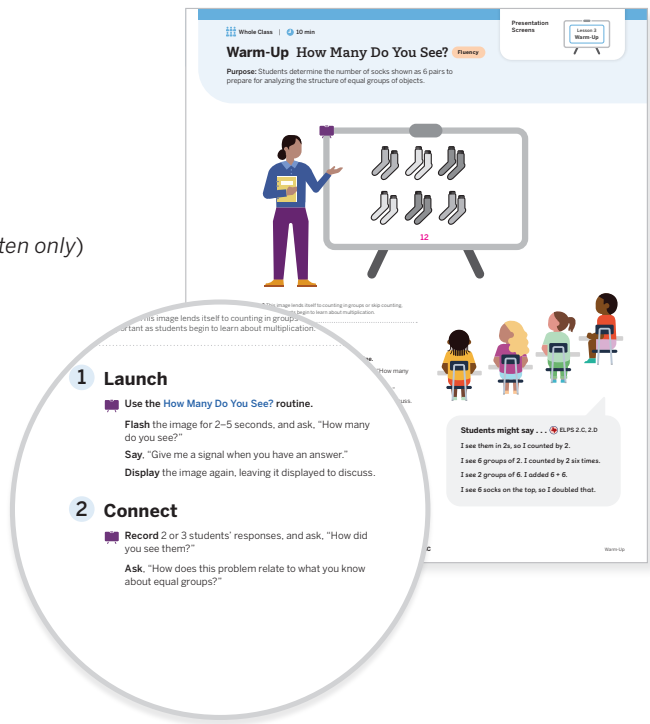
Each instructional routine included in an Amplify Desmos Math Texas lesson creates opportunities for conversations and supports meaningful discussion. Implementing these routines can be a practical tool for establishing a classroom learning community that values students' thinking.

Instructional Routines Embedded in the Curriculum

Instructional routines can be found throughout each lesson in the Teacher Edition. Here is a list of the instructional routines used in the Amplify Desmos Math Texas curriculum:

- **MLR1:** Stronger and Clearer Each Time
- **MLR2:** Collect and Display
- **MLR3:** Critique, Correct, Clarify (*Grades 2–5*)
- **MLR4:** Information Gap (*Grades 3–5*)
- **MLR5:** Co-Craft Questions
- **MLR6:** Three Reads
- **MLR7:** Compare and Connect
- **MLR8:** Discussion Supports
- Choral Count
- Estimation Exploration
- Gallery Tour
- How Many Do You See?
- Mix and Mingle
- Notice and Wonder
- Number Talk
- Stories and Questions (*Kindergarten only*)
- Think-Pair-Share
- True or False?
- What Do You Know About ____?
- Which One Doesn't Belong?

Fluency Instructional Routines are used in many lesson warm-ups to help students build fluency skills. Because fluency requires repeated practice, fluency is also embedded in Centers, Lessons, Lesson Practice, and Fluency Practice cards.



Bringing Math to Life

Amplify Desmos Math Texas K–5 has two features specifically designed to increase active engagement in the math classroom.

Unit Stories

Every unit in Amplify Desmos Math Texas K–5 contains a **Unit Story**. These are brief fiction stories read aloud by the teacher at the beginning of each unit that introduce contexts and characters connected to the math of the unit. Unit Stories help students see themselves and their communities in math and see math as part of their identities and communities.

How do they work?

- Teachers read the story aloud from their Teacher Edition while presenting illustrations for students.
- Students get to know the characters, setting, and plot of the story, all of which they will encounter again across the unit. Students engage in the **Notice and Wonder** routine throughout the story and discuss how they see math in the story.
- Across the unit, the Unit Story context and characters are used at appropriate points to inspire and engage students in the math as well as in reflections about their math identity and community.



Centers

Centers in Amplify Desmos Math Texas help strengthen students' understanding of key skills and concepts through engaging, hands-on, 15-minute games for students to play collaboratively.

How do they work?

- **Teachers have access to all Centers** from their grade level as well as all Centers from other grade levels.
- Work Mats and instruction cards are included in the **Centers Resources book** and in the optional **Centers Kit**. Manipulatives are included in the optional **Manipulative Kit**. Centers are designed for students to engage in with minimal teacher direction and support.
- **Each Center has multiple stages** so that students return to the same Center game repeatedly within and across grade levels, with the content of the Center growing in complexity to align with grade-level standards in a scaffolded manner.



Centers as Activities

New Centers are strategically introduced to the whole class as one of the Lesson Activities.

Differentiation

Each lesson lists one recommended Center teachers can use with small groups to strengthen their understanding of key learning goals.

- Students were introduced to the Center stage or an earlier stage of the Center in a previous lesson.
- Teachers can also use Centers after Assessments.

Accessibility

Amplify Desmos Math Texas is built to support all students in accessing and participating in meaningful and challenging learning. This support is incorporated into the curriculum structure, lesson-level guidance, and digital tools.

Universal Design for Learning

Each lesson incorporates opportunities for engagement, representation, action, and expression based on the guidelines of Universal Design for Learning (UDL). UDL is a research-based framework designed to ensure meaningful learning experiences for all students. ¹

Multiple Means of Engagement

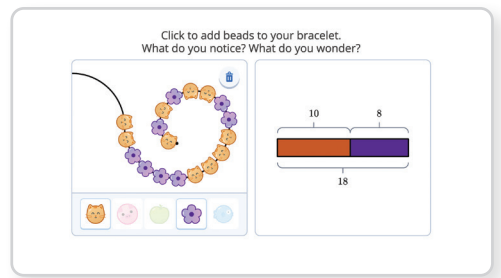
Individuals are each motivated in different ways, at different times, and in different contexts. Lessons are designed to welcome interests and identities, support sustaining effort and persistence, and develop emotional capacity.



Sustain Effort and Persistence: Students are invited to build their own challenge for other students to solve, which provides opportunities for choice and autonomy, as well as joy and play.

Multiple Means of Representation

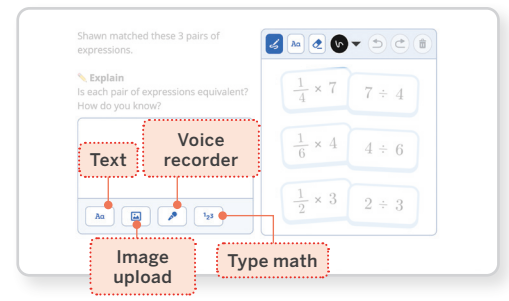
Learners make sense of information differently. Amplify Desmos Math Texas includes options for presenting information in multiple ways to support comprehension and understanding of language.



Cultivate Multiple Ways of Knowing and Making Meaning: Classes engage in open-ended discussions about what individual students notice and wonder about mathematical concepts.

Multiple Means of Action and Expression

Learners differ in how they navigate learning environments and express what they know. Amplify Desmos Math Texas ensures that materials and interactions are accessible, support multiple means of students' expression and communication, and scaffold executive functioning.



Support Multiple Means of Student Expression and Communication: Students can communicate their ideas in multiple ways, including sketching, uploading photos, or recording an audio response.

Lesson Facilitation Supports

Every lesson includes at least one specific suggestion the teacher can use to increase access to the lesson without reducing the mathematical demand of the tasks. These suggestions address the following areas:

- Conceptual Processing
- Visual-Spatial Processing
- Executive Functioning
- Memory and Attention
- Fine Motor Skills

A

Accessibility: Visual-Spatial Processing: Guide visualization by demonstrating the connections between the expression and the base-ten blocks. Use annotations, such as arrows and labels, to highlight the connections.

¹ <https://udlguidelines.cast.org/>

Accessibility Tools

With their teacher's support, students have the ability to use accessibility tools on their device to customize the learning experience to their individual student needs.

Text to speech: Use the screen reader on a student's device to read text instructions to students in multiple languages, including narration of digital interactions.

Font: The font used in our elementary program is a large font that has easier-to-read text styling.

Zoom: Students can zoom the page using their device zoom options to make the text and images larger.

Language selection: Toggles between languages.

Differentiation

Differentiation in Amplify Desmos Math Texas enables teachers to ensure all students have access to grade-level math content. This support is organized for teachers into three categories:

<p>S Support</p> <p>Provide targeted intervention for students by using these resources.</p>	<p>S Strengthen</p> <p>Reinforce students' understanding of the concepts assessed by using these resources.</p>	<p>S Stretch</p> <p>Challenge students and extend their learning with these resources.</p>
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Differentiation: In-Lesson Teacher Moves

Within every lesson activity, teachers can use the **D Differentiation Teacher Moves** suggestions to provide **in-the-moment instructional support** to learners as they engage in the work of the lesson.

Teachers are provided with clear student actions and understandings to look for, each matched with immediately usable suggestions for how to respond to the student thinking illustrated in each row of the table.

In addition to using these suggestions in the moment as teachers monitor student work, teachers can review the Differentiation table in advance to help them anticipate how students are likely to approach the activity.

D Differentiation Teacher Moves		
Look for students who ...	For example ...	Provide support ...
Use their fingers to find the missing addend.	I can count the amount I know, 1, 2, 3, 4, 5, 6, 7, 8. Then I have 2 fingers left, 9, 10. So, 2 is the number that will make 10.	Strengthen Ask, "Where do you see the amount you know in the blocks or in the equation?"
Count on or count back to find the missing addend.	I have 8, so I can count 2 more: 9, 10. or I need 10, so I can count back 2 to get to 8: 9, 8.	
Use a known fact to find the missing addend.	I know $2 + 8 = 10$, so I know $8 + 2 = 10$. or I know $9 + 1 = 10$, so I know $8 + 2 = 10$.	Stretch Ask, "Why might it be helpful to know pairs that make 10?"

Differentiation: Beyond the Lesson

In each lesson, students' understanding of the learning goals is broken down for teachers into three categories: students who need support to understand the learning goals, students who need to continue strengthening their understanding of the learning goals, and students who are ready to stretch their learning.

Each **Support**, **Strengthen**, and **Stretch** resource is designed to take 15 minutes:

- **Mini-Lessons:** Targeted intervention for students who need additional support or need more time.
- **Centers:** Collaborative hands-on games.
- **Extensions:** Small group or independent challenges.



Teachers can also assign digital resources to Support, Strengthen, and Stretch student learning: **Boost Personalized Learning**, **Fluency Practice**, and **Math Adventures**.

- » Amplify Desmos Math Texas includes digital, adaptive practice that provides the personalized support students need to access grade-level math every day.
- » Boost Personalized Learning activities target a skill or concept aligned to the unit, with each student receiving personalized scaffolds based on what they already know.

D Differentiation: Assess and Respond

At each Assessment point in a unit, teachers have the opportunity to respond to students' understanding. For each assessment item, teachers are provided with clear suggestions for how to support students who are showing they need intervention. Based on the assessment, students who are ready to strengthen or stretch their learning can access any of the strengthen or stretch resources aligned to the content of the assessment.

Follow the throughline of Amplify Desmos Math Texas integrated system of math language development shown on these pages with a Grade 1 example.

- **Point-of-use lesson-level language supports** in the Student and Teacher Editions and *Math Language Development Resources*.


- ✓ Diagrams and visuals
- ✓ Sentence frames and word banks
- ✓ Graphic organizers, including Frayer models
- ✓ Vocabulary routines
- ✓ Embedded language supports aligned to the ELPS

- **Unit-level language supports** in the Teacher Edition and *Math Language Development Resources*.

- ✓ Words With Multiple Meanings
- ✓ Vocabulary Cards in all grades, including Greek and Latin word histories in Grades 4 and 5
- ✓ Contextual vocabulary



The cover of the Amplify Math TEXAS Student Edition features a vibrant, stylized illustration of a city scene. In the foreground, a large purple cube is stacked on top of a large orange cube. A person in a yellow shirt and blue pants stands on top of the orange cube, holding a clipboard. Another person in a blue shirt and dark pants stands next to the purple cube, holding a clipboard. A third person in a blue shirt and dark pants stands next to the purple cube, holding a clipboard. A fourth person in a blue shirt and dark pants stands next to the purple cube, holding a clipboard. A small boat is in the water in the background. The title "Amplify Math TEXAS" is prominently displayed in the upper left, with the Texas state outline logo. The text "Student Edition" is below the title. In the upper right, a purple square contains the number "5" and the word "Volume".



Amplify Desmos Math
TEXAS

GRADE 5

Math Language Development Resources


The background of the page features a large, stylized number 5 in a light purple color, with various geometric shapes and lines scattered around it.

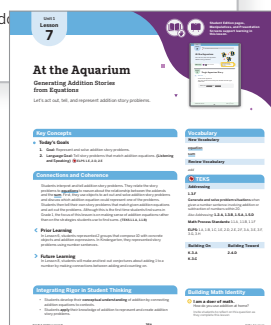
- **Course-level language supports** in the Teacher Edition and *Math Language Development Resources*.

- ✓ English/Spanish cognates
- ✓ Pronunciation and spelling support

Each lesson is designed around a targeted **Language Goal**.

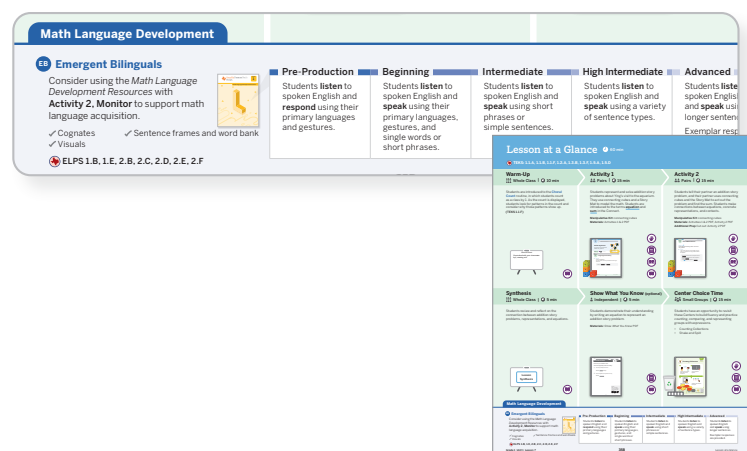
- **Today's Goals**

1. **Goal:** Represent and solve addition story problems.
2. **Language Goal:** Tell story problems that match add and Speaking)  ELPS 1.E, 2.D, 2.E



Grade 1, Unit 1, Lesson 7
Lesson Overview

The Lesson at a Glance **Math Language Development** section provides an overview of the proficiency-leveled scaffolds and supports for a targeted activity in the lesson. The targeted activity is aligned to the lesson's Language Goal.



Grade 1, Unit 1, Lesson 7
Lesson at a Glance

Teacher Edition (continued)

Embedded **Math Language Routines (MLRs)** and scaffolds and supports for **Emergent Bilinguals** are provided and aligned to the Texas English Language Proficiency Standards (ELPS).

MLR6: Three Reads
Read aloud Problem 2 with students.
• **Read 1:** Ask, "What is this story about?"
• **Read 2:** Ask, "What amount is given?"
• **Read 3:** Ask, "What amount pairs for 2–3 minutes to solve?"

Emergent Bilinguals: Help by moving 2 hands toward the total. **ELPS 1.B**

Grade 1, Unit 1, Lesson 7, Activity 1

For the activity targeted on the Lesson at a Glance page, refer to the *Math Language Development Resources* for proficiency-level scaffolds and supports that are also aligned to the ELPS.

Emergent Bilinguals: Use a number line to find the total. **ELPS 1.B**

Grade 1, Unit 1, Lesson 7, Activity 2

Student Edition

In **Hands-On** activities, students use physical manipulatives to support conceptual understanding. Many **Discuss** prompts contain sentence frames for all students.

Hands-On
Use the Mat and connect cubes to act out the story problem.

Discuss
Listen to your partner's story problem. If you think their problem is not the equation, explain why.

Grade 1, Unit 1, Lesson 7, Activity 1

Grade 1, Unit 1, Lesson 7, Activity 2

The **Summary** includes definitions for **vocabulary terms**.

Summary
Addition can be represented with story problems, objects, pictures, or equations.

sum The total when 2 or more numbers are added.

Grade 1, Unit 1, Lesson 7, Summary

Math Language Development Resources

Some of the scaffolds provided for point-of-use support include **sentence frame structures** for speaking and writing, **visuals** for contextual and content vocabulary, **English/Spanish word banks**, **Frayer models**, and other graphic organizers.

Teacher support is provided including **English/Spanish cognates**, **ELPS alignment**, and **proficiency-level supports** (Pre-Production, Beginning, Intermediate, High Intermediate, and Advanced).

1.07 At the Aquarium
Generating Addition Stories from Equations

Your Addition Stories

sum The total when 2 or more numbers are added.

Grade 1, Unit 1, Lesson 7, Activity 2

Proficiency-leveled ELPS Support

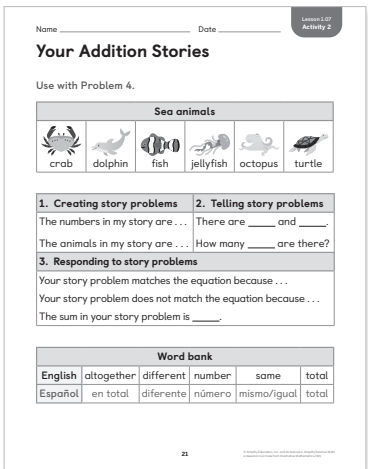
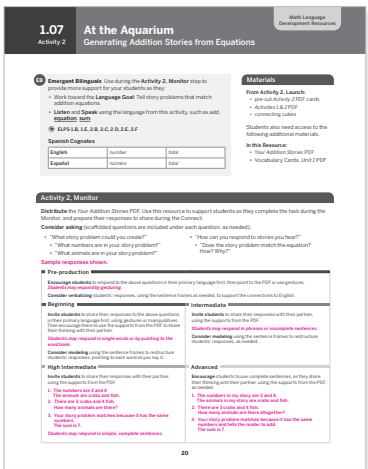
Language support aligned to the 5 ELPS proficiency levels are found in the *Math Language Development Resources*.

Amplify Desmos Math Texas math language support is built with the Texas English Language Proficiency Standards (ELPS) in mind. One activity in each lesson is paired with additional language support located in the *Math Language Development Resources*. These scaffolds and supports are designed for targeted language moments of listening, speaking, reading and/or writing within each Student Edition lesson, provided for each of the 5 ELPS proficiency levels. Pronunciation support and Greek and Latin word histories (Grades 4 and 5) are also provided at the unit level using the Vocabulary Cards.

ELPS Proficiency Levels

- Pre-Production
- Beginning
- Intermediate
- High Intermediate
- Advanced

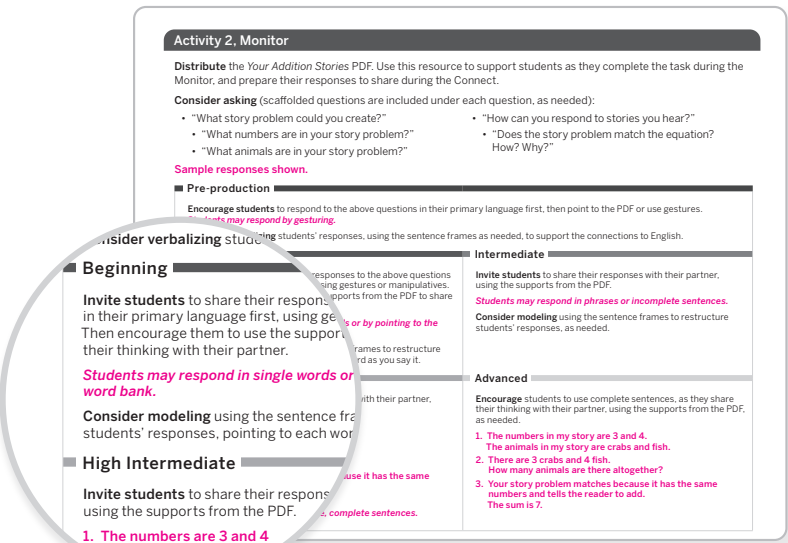
Support students in the selected activity by using the *Math Language Development Resources*. Each page provides ELPS-proficiency-leveled support using visuals, sentence frames, word banks, and graphic organizers. Discussion prompts for each level are provided. Consider asking your students to respond to these prompts to help them build math language acquisition and comprehension.



Grade 1, Unit 1, Lesson 7, Activity 2, *Math Language Development Resources*

Sample Leveled Supports at Each Proficiency Level

- Pre-Production:** Look for students to respond with gestures or their primary language as they develop receptive language. Consider using the sentence frames provided on the Student page to support connections to English by verbalizing their responses.
- Beginning:** Look for students to respond using single words or phrases using 2 or 3 words as they engage in the beginnings of expressive language.
- Intermediate:** Look for students to respond in short phrases or simple sentences as they demonstrate literal comprehensions with receptive and expressive language.
- High Intermediate:** Look for students to respond using a variety of sentence types and simple, complete sentences as they demonstrate both literal and abstract comprehension.
- Advanced:** Look for students to engage and respond using longer, complete sentences in English with a variety of grammatical structures and little to no linguistic support.

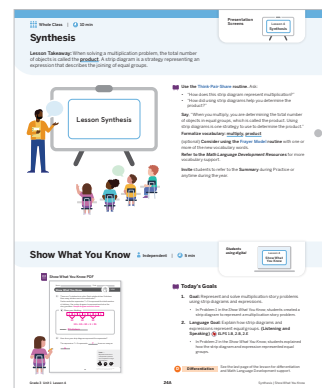


More Language Support

Additional language support is provided in the Teacher Edition and *Math Language Development Resources*.

Lesson-Level Supports

- During the Synthesis of lessons in which new vocabulary terms are formalized, suggestions for utilizing **Vocabulary Routines** are provided in the Teacher Edition. Refer to the Vocabulary Routines pages in the *Math Language Development Resources* for descriptions of these routines and alignment to the ELPS.

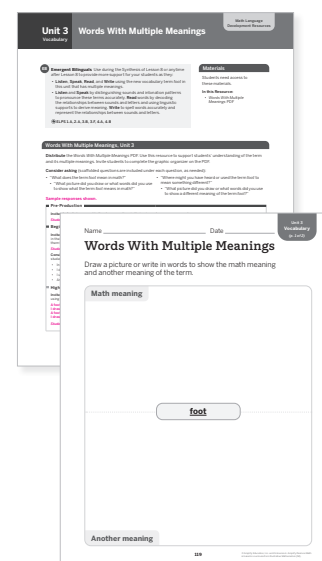


Grade 3, Unit 1, Lesson 4

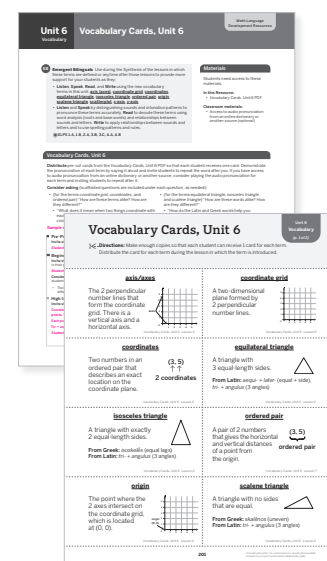
When you multiply, you are multiplying objects in equal groups, which is one strategy to use to multiply. **Formalize vocabulary: multiply, product** (optional) Consider using the **Frayer Model** for more of the new vocabulary words. **Refer to the Math Language Development Resources** for more vocabulary support. **Invite students to refer to the Summary** anytime during the year.

Unit-Level Supports

- A list of the **contextual vocabulary** used in each unit is provided on the Vocabulary of the Unit page in the Unit Overview of the Teacher Edition.
- To support students' understanding of words that may have multiple meanings, use the **Words With Multiple Meanings** pages provided in the *Math Language Development Resources*. Teacher support, including suggestions for implementation, is provided. **ELPS 1.B, 1.D, 2.B**
- To support students' understanding of new vocabulary terms, use the **Vocabulary Cards** provided in the *Math Language Development Resources*. In Grades 4 and 5, for vocabulary terms with Greek and Latin roots and word histories, those are provided on the vocabulary cards. Teacher support, including suggestions for implementation, is provided. **ELPS 1.A, 2.A, 3.B, 3.F, 4.A, 4.B**



Grade 2, Unit 3



Grade 5, Unit 6

Course-Level Supports

- A list of the **English/Spanish Cognates** for each grade is provided in the *Math Language Development Resources*. **ELPS 1.B, 2.A, 3.B, 3.C, 3.D**
- Pronunciation Guides** are provided in the *Math Language Development Resources*, including suggestions for implementation. Use these guides to demonstrate the relationships between sounds and letters to support students as they listen to comprehend, speak to express using accurate pronunciations, read by decoding, and write using spelling patterns and rules for new vocabulary terms. **ELPS 1.A, 2.A, 3.B, 3.F, 4.A, 4.B**

English	Spanish	English	Spanish
acute	agudo	acute	agudo
addition	adición	acute	agudo
adjacent	adyacente	acute	agudo
algorithm	algoritmo	acute	agudo
angle	ángulo	acute	agudo
area	área	acute	agudo
bank	banco	acute	agudo
compare	comparar	acute	agudo
compose	componer	acute	agudo
contrast	contrastar	acute	agudo
conversion	conversión	acute	agudo
convert	convertir	acute	agudo
cost	costo	acute	agudo

Grade 4, English/Spanish Cognates

Word	Pronunciation Guide	Word	Pronunciation Guide
acute	ah-oo-tee	acute	ah-oo-tee
addition	uh-dih-tuhn	acute	ah-oo-tee
adjacent	uh-jay-suh-ent	acute	ah-oo-tee
algorithm	al-guh-rith-m	acute	ah-oo-tee
angle	ang-gul	acute	ah-oo-tee
area	ay-ree	acute	ah-oo-tee
bank	bank	acute	ah-oo-tee
compare	kuh-mpay-er	acute	ah-oo-tee
compose	kuh-m-pohz	acute	ah-oo-tee
contrast	kuh-trayst	acute	ah-oo-tee
conversion	kuh-vaysh-n	acute	ah-oo-tee
convert	kuh-vayt	acute	ah-oo-tee
cost	kost	acute	ah-oo-tee

Grade 4, Pronunciation Guide

Program Assessments

A variety of performance data in Amplify Desmos Math Texas provides evidence of student learning while helping students bolster their skills and understanding.

Throughout lessons, units, and the entire program, you will find summative and formative assessments meant to provide insights into students’ conceptual understandings. Student learning is never a surprise at the end of a unit — with Amplify Desmos Math Texas, understanding is made continually visible.

Amplify Desmos Math Texas Reporting offers insightful and actionable data to help teachers understand their students’ strengths, create grades, and modify instruction.

Lesson-Level Assessments

Amplify Desmos Math Texas lessons are centered around sense-making and in-the-moment feedback. Daily moments of assessment provide insights into students’ understandings of concepts and skills.



Show What You Know

Each lesson has a daily formative assessment focused on one of the **key concepts** in the lesson. Show What You Know moments are opportunities for students to show their teacher what they understand and what they are still learning.

Unit-Level Assessments

Our **embedded unit assessments** offer key insights into students’ conceptual understanding of math. These assessments provide regular, actionable information about how students are thinking about and processing math, with both **auto-scoring** and **in-depth rubrics** that help teachers anticipate and respond to students’ learning needs.



Pre-Unit Check

Each unit begins with a check to determine students’ **proficiency** with **prerequisite skills** that are helpful for success in the upcoming unit. This check serves as an affirmation of the knowledge and skills with which students come into the unit. **Suggestions for supports** students may need as they engage in the unit are provided.



Sub-Unit Quizzes

In Sub-Unit Quizzes, students are assessed on a subset of **mathematical skills, conceptual understandings and procedural fluencies** from the unit. Guidance helps illuminate where students are and provides insight into what **supports** they need to get where they need to go.



End-of-Unit Assessment

Students engage with rigorous grade-level mathematics through a variety of formats and tasks in the End-of-Unit Assessment. These formats, comprising both auto-scored and rubric-scored items, provide deep insight into students’ learning of skills and concepts.

Course-Level Assessments

The asset-based digital **mCLASS Assessments** system measures proficiency, reveals underlying mathematical thinking, and informs instructional support for every learner. A brief, yet powerful **Beginning-of-Year Screener** is provided when full access to mCLASS is not included. This screener helps target intervention areas and identify specific areas of strength and development to inform differentiation.

Texas Essential Knowledge and Skills (TEKS), Grade 5

The following shows the alignment of Amplify Desmos Math Texas to the Texas Essential Knowledge and Skills (TEKS) for Grade 5.

5.1 Mathematical process standards		Lesson(s)
The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:		
5.1.A	Apply mathematics to problems arising in everyday life, society, and the workplace;	Unit 1: Lessons 7, 17 Unit 2: Lessons 1–4, 9 Unit 3: Lessons 1, 2, 6, 11, 12, 14–17 Unit 4: Lessons 1, 8, 9, 12, 14, 15 Unit 5: Lessons 1, 2, 4–10, 13–16 Unit 6: Lessons 1, 12
5.1.B	Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution;	Unit 1: Lessons 1, 6, 8, 11, 15, 16 Unit 2: Lessons 1, 7 Unit 3: Lessons 1–4, 7, 11, 12 Unit 4: Lessons 1, 9, 12, 16 Unit 5: Lessons 1, 5, 7, 10, 12–14, 16, 17 Unit 6: Lessons 1, 8, 10
5.1.C	Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;	Unit 1: Lessons 1, 7 Unit 2: Lessons 2, 9 Unit 3: Lessons 5, 6, 9, 11 Unit 4: Lessons 7, 8, 10, 11, 16, 17 Unit 5: Lessons 8–10, 15, 16 Unit 6: Lesson 2
5.1.D	Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;	Unit 1: Lessons 1, 5, 7, 11, 13, 14, 17 Unit 2: Lessons 2, 5 Unit 3: Lessons 5, 6, 9, 11, 13, 14 Unit 4: Lessons 2, 3, 7, 9–11, 17 Unit 5: Lessons 1, 8, 11–13, 15, 17 Unit 6: Lessons 1, 6, 8–12
5.1.E	Create and use representations to organize, record, and communicate mathematical ideas;	Unit 1: Lessons 2–5, 7, 8, 10, 11 Unit 2: Lessons 1–4, 6, 8, 10 Unit 3: Lessons 1, 4, 5, 7–9, 11, 12, 16 Unit 4: Lessons 3–5, 10–15, 17 Unit 5: Lessons 1, 4, 8, 9, 11–13, 15, 16 Unit 6: Lessons 1, 3, 5, 6, 10–12
5.1.F	Analyze mathematical relationships to connect and communicate mathematical ideas; and	Unit 1: Lessons 4, 6, 8–10, 12–15, 17 Unit 2: Lessons 2–9 Unit 3: Lessons 2, 3, 8, 9, 12, 13, 17 Unit 4: Lessons 1, 3–9, 12, –16 Unit 5: Lessons 1–7, 9–11, 14, 15 Unit 6: Lessons 2–5, 7, 8, 10, 12

Texas Essential Knowledge and Skills (TEKS), Grade 5 (continued)

5.1.G	Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.	Unit 1: Lessons 2–4, 7, 9, 12, 15–17 Unit 2: Lessons 3, 4, 6, 7, 9 Unit 3: Lessons 1–3, 5, 9, 10, 12, 13, 17 Unit 4: Lessons 1, 3, 4, 6, 8, 9, 12–14, 16, 17 Unit 5: Lessons 3, 4, 6, 9–15, 17 Unit 6: Lessons 2–5, 7, 9, 10
5.2	Number and operations.	Lesson(s)
The student applies mathematical process standards to represent, compare, and order positive rational numbers and understand relationships as related to place value. The student is expected to:		
5.2.A	Represent the value of the digit in decimals through the thousandths using expanded notation and numerals;	Unit 4: Lesson 4
5.2.B	Compare and order two decimals to thousandths and represent comparisons using the symbols $>$, $<$, or $=$; and	Unit 4: Lessons 6, 8
5.2.C	Round decimals to tenths or hundredths.	Unit 4: Lessons 7, 8
5.3	Number and operations.	Lesson(s)
The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to:		
5.3.A	Estimate to determine solutions to mathematical and real–world problems involving addition, subtraction, multiplication, or division;	Unit 3: Lessons 2, 3, 5, 7 Unit 4: Lessons 16, 17 Unit 5: Lesson 12
5.3.B	Multiply with fluency a three-digit number by a two-digit number using the standard algorithm;	Unit 3: Lessons 5, 17
5.3.C	Solve with proficiency for quotients of up to a four-digit dividend by a two-digit divisor using strategies and the standard algorithm;	Unit 3: Lessons 7–10
5.3.D	Represent multiplication of decimals with products to the hundredths using objects and pictorial models, including area models;	Unit 4: Lessons 10–13
5.3.E	Solve for products of decimals to the hundredths, including situations involving money, using strategies based on place-value understandings, properties of operations, and the relationship to the multiplication of whole numbers;	Unit 4: Lessons 10–13
5.3.F	Represent quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using objects and pictorial models, including area models;	Unit 4: Lessons 14, 15
5.3.G	Solve for quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using strategies and algorithms, including the standard algorithm;	Unit 4: Lessons 16, 17
5.3.H	Represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations;	Unit 5: Lessons 8–14
5.3.I	Represent and solve multiplication of a whole number and a fraction that refers to the same whole using objects and pictorial models, including area models;	Unit 2: Lessons 2–7

5.3.J	Represent division of a unit fraction by a whole number and the division of a whole number by a unit fraction such as $\frac{1}{3} \div 7$ and $7 \div \frac{1}{3}$ using objects and pictorial models, including area models;	Unit 2: Lessons 8–10
5.3.K	Add and subtract positive rational numbers fluently; and	Unit 3: Lessons 15, 16 Unit 4: Lesson 9
5.3.L	Divide whole numbers by unit fractions and unit fractions by whole numbers.	Unit 2: Lessons 8–10
5.4 Algebraic reasoning.		Lesson(s)
The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to:		
5.4.A	Identify prime and composite numbers;	Unit 1: Lessons 12–14
5.4.B	Represent and solve multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity;	Unit 3: Lessons 11, 12
5.4.C	Generate a numerical pattern when given a rule in the form $y = ax$ or $y = x + a$ and graph;	Unit 6: Lesson 11
5.4.D	Recognize the difference between additive and multiplicative numerical patterns given in a table or graph;	Unit 6: Lessons 10, 11
5.4.E	Describe the meaning of parentheses and brackets in a numeric expression;	Unit 1: Lesson 16
5.4.F	Simplify numerical expressions that do not involve exponents, including up to two levels of grouping;	Unit 1: Lessons 15–17 Unit 2: Lesson 5 Unit 3: Lesson 12 Unit 5: Lesson 14
5.4.G	Use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube ($V = l \times w \times h$, $V = s \times s \times s$, and $V = Bh$); and	Unit 1: Lesson 6
5.4.H	Represent and solve problems related to perimeter and/or area and related to volume.	Unit 1: Lessons 5–10, 17 Unit 3: Lesson 9
5.5 Geometry and measurement.		Lesson(s)
The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to:		
5.5	Classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.	Unit 6: Lessons 2, 3, 5
5.6 Geometry and measurement.		Lesson(s)
The student applies mathematical process standards to understand, recognize, and quantify volume. The student is expected to:		
5.6.A	Recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a three-dimensional figure as the number of unit cubes (n cubic units) needed to fill it with no gaps or overlaps if possible; and	Unit 1: Lessons 2–4
5.6.B	Determine the volume of a rectangular prism with whole number side lengths in problems related to the number of layers times the number of unit cubes in the area of the base.	Unit 1: Lesson 5

Texas Essential Knowledge and Skills (TEKS), Grade 5 (continued)

5.7 Geometry and measurement.		Lesson(s)
The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving measurement. The student is expected to:		
5.7	Solve problems by calculating conversions within a measurement system, customary or metric.	Unit 5: Lessons 2–7
5.8 Geometry and measurement.		Lesson(s)
The student applies mathematical process standards to identify locations on a coordinate plane. The student is expected to:		
5.8.A	Describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point (0, 0); the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin; and the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin;	Unit 6: Lesson 9
5.8.B	Describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane; and	Unit 6: Lesson 9
5.8.C	Graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real–world problems, including those generated by number patterns or found in an input-output table.	Unit 6: Lessons 7–9, 12
5.9 Data analysis.		Lesson(s)
The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. The student is expected to:		
5.9.A	Represent categorical data with bar graphs or frequency tables and numerical data, including data sets of measurements in fractions or decimals, with dot plots or stem-and-leaf plots;	Unit 5: Lessons 15, 16
5.9.B	Represent discrete paired data on a scatterplot; and	Unit 6: Lesson 12
5.9.C	Solve one- and two-step problems using data from a frequency table, dot plot, bar graph, stem-and-leaf plot, or scatterplot.	Unit 5: Lessons 16, 17
5.10 Personal financial literacy.		Lesson(s)
The student applies mathematical process standards to manage one’s financial resources effectively for lifetime financial security. The student is expected to:		
5.10.A	Define income tax, payroll tax, sales tax, and property tax;	Unit 3: Lesson 14
5.10.B	Explain the difference between gross income and net income;	Unit 3: Lesson 14
5.10.C	Identify the advantages and disadvantages of different methods of payment, including check, credit card, debit card, and electronic payments;	Unit 3: Lesson 17
5.10.D	Develop a system for keeping and using financial records;	Unit 3: Lesson 16
5.10.E	Describe actions that might be taken to balance a budget when expenses exceed income; and	Unit 3: Lesson 15
5.10.F	Balance a simple budget.	Unit 3: Lesson 15

Texas English Language Proficiency Standards (ELPS)

The following shows the alignment of Amplify Desmos Math Texas to the Texas English Language Proficiency Standards (ELPS) for Grade 5.

Student expectations – Listening.		Student Edition and Teacher Edition Lesson(s)	Math Language Development Resources
The EB student listens to a variety of speakers including teachers, peers, and multimedia to gain an increasing level of comprehension in all content areas. The EB student may be at the pre–production, beginning, intermediate, high intermediate, or advanced proficiency levels in listening. The student is expected to:			
1.A	Distinguish sounds and intonation patterns by responding orally, in writing, or with gestures.	Unit 1: Lesson 1 Unit 2: Lesson 1 Unit 3: Lessons 1, 2, 16 Unit 4: Lesson 6 Unit 6: Lessons 7, 9	See also the Pronunciation Guides. Grade 5: Letters and Sounds, Putting Words Together Units 1, 3–6: Vocabulary Cards
1.B	Use contextual factors or word analysis such as cognates, Greek and Latin prefixes, suffixes, and roots to comprehend content-specific vocabulary when heard during formal and informal classroom interactions by responding with gestures or images, orally, or in writing.	Unit 1: Lessons 2, 8–10, 12, 13, 15, 16 Unit 2: Lesson 7 Unit 3: Lessons 3, 9, 11, 12, 14–17 Unit 4: Lessons 1, 2, 4, 6, 10, 11 Unit 5: Lessons 6, 7, 10, 16 Unit 6: Lessons 2, 6, 7, 9, 12	Units 1, 3–6: Vocabulary Cards Unit 1: Lessons 2, 6, 8, 12, 13, 15–17 Unit 3: Lessons 14–17 Unit 4: Lessons 2, 6, 8 Unit 5: Lesson 6 Unit 6: Words With Multiple Meanings, Lessons 2, 6, 7, 9, 12
1.C	Respond with accuracy to oral directions, instructions, and requests.	Unit 1: Lessons 3, 10 Unit 2: Lessons 7, 8, 9 Unit 3: Lessons 1, 2, 16 Unit 4: Lessons 6, 15 Unit 5: Lesson 11 Unit 6: Lessons 2, 7, 9	Refer to the Student Edition and Teacher Edition for coverage of this standard.
1.D	Use context to construct the meaning of descriptive language, words with multiple meanings, register, and figurative language such as idiomatic expressions, heard during formal and informal classroom interactions.	Unit 1: Lessons 11, 15	Refer to the Student Edition and Teacher Edition for coverage of this standard.
1.E	Demonstrate listening comprehension from information presented orally during formal and informal classroom interactions by restating, responding, paraphrasing, summarizing, or asking for clarification or additional details.	Unit 1: Lessons 1–11, 13–17 Unit 2: Lessons 1–10 Unit 3: Lessons 1–17 Unit 4: Lessons 1–17 Unit 5: Lessons 1–17 Unit 6: Lessons 1–12	Unit 1: Lessons 1–17 Unit 2: Lessons 1–10 Unit 3: Lessons 1–17 Unit 4: Lessons 1–17 Unit 5: Lessons 1–17 Unit 6: Lessons 1–12

Texas English Language Proficiency Standards (ELPS) (continued)

1.F	Derive meaning from a variety of auditory multimedia sources to build and reinforce concepts and language acquisition.	<p>See also <i>Boost Personalized Learning</i>, available online under the <i>Differentiation Beyond the Lesson</i> tab.</p> <p>Unit 1: Lessons 2, 6, 9, 11, 12, 14</p> <p>Unit 2: Lessons 5, 6</p> <p>Unit 3: Lessons 2, 3, 7, 10</p> <p>Unit 4: Lessons 5, 8, 11</p> <p>Unit 5: Lessons 2, 5, 6, 8, 11</p> <p>Unit 6: Lessons 6–8</p>	Refer to the <i>Student Edition</i> and <i>Teacher Edition</i> for coverage of this standard.
Student expectations – Speaking.		Student Edition and Teacher Edition Lesson(s)	Math Language Development Resources
<p>The EB student speaks using a variety of language structures for a variety of purposes with an awareness of different language registers (formal/informal) using vocabulary with increasing accuracy and fluency in all content areas. The EB student may be at the pre–production, beginning, intermediate, high intermediate, or advanced proficiency level of English language acquisition in speaking. The student is expected to:</p>			
2.A	Pronounce words, including high-frequency words, cognates, and increasingly complex syllable types, with accuracy.	Unit 3: Lesson 16	<p>See also the <i>Pronunciation Guides</i>.</p> <p>Grade 5: Letters and Sounds, How Do You Say It?</p> <p>Units 1, 3–6: Vocabulary Cards</p>
2.B	Speak using content-area vocabulary during formal and informal classroom interactions to demonstrate acquisition of new words and high-frequency words.	<p>Unit 1: Lessons 1, 2, 5, 6, 8–17</p> <p>Unit 2: Lessons 1–4, 6–10</p> <p>Unit 3: Lessons 1–10, 12–17</p> <p>Unit 4: Lessons 1–17</p> <p>Unit 5: Lessons 1– 7, 9–11, 13–17</p> <p>Unit 6: Lessons 1, 2, 5–12</p>	<p>Unit 1: Lessons 2–17</p> <p>Unit 2: Lessons 2–10</p> <p>Unit 3: Lessons 12–14</p> <p>Unit 4: Lessons 2–17</p> <p>Unit 5: Lessons 2–17</p> <p>Unit 6: Lessons 1–11</p>
2.C	Speak using a variety of language and grammatical structures, sentence lengths and types, and transition words.	<p>Unit 1: Lessons 2–4, 6, 7, 10–13, 15–17</p> <p>Unit 2: Lessons 1–6, 8–10</p> <p>Unit 3: Lessons 2–17</p> <p>Unit 4: Lessons 2–4, 6, 7, 9–12, 14–17</p> <p>Unit 5: Lessons 1, 2, 4, 8–15</p> <p>Unit 6: Lessons 1–6, 8–11</p>	<p>Grade 5: How Do You Say It?, Putting Words Together</p> <p>Unit 1: Lessons 1–17</p> <p>Unit 2: Lessons 1–10</p> <p>Unit 3: Lessons 1–17</p> <p>Unit 4: Lessons 1–17</p> <p>Unit 5: Lessons 1–17</p> <p>Unit 6: Lessons 1–11</p>
2.D	Speak using appropriate register to convey a message during formal and informal classroom interactions with accuracy and fluency.	<p>Unit 1: Lessons 2–4, 6–10, 12, 13, 15–17</p> <p>Unit 2: Lessons 1–6, 8–10</p> <p>Unit 3: Lessons 2–6, 8–17</p> <p>Unit 4: Lessons 1, 2, 4, 5, 8–17</p> <p>Unit 5: Lessons 1, 2, 4, 5, 8–17</p> <p>Unit 6: Lessons 2–6, 8, 10, 12</p>	<p>Unit 1: Lessons 2–17</p> <p>Unit 2: Lessons 2–10</p> <p>Unit 3: Lessons 2–17</p> <p>Unit 4: Lessons 2–17</p> <p>Unit 5: Lessons 2–17</p> <p>Unit 6: Lessons 1–11</p>

2.E	Narrate, describe, explain, justify, discuss, elaborate, or evaluate orally with increasing specificity and detail in academic context or discourse.	Unit 1: Lessons 1–17 Unit 2: Lessons 1–10 Unit 3: Lessons 1– 17 Unit 4: Lessons 1–17 Unit 5: Lessons 1–17 Unit 6: Lessons 1–12	Unit 1: Lessons 1–17 Unit 2: Lessons 1–10 Unit 3: Lessons 1–17 Unit 4: Lessons 1–17 Unit 5: Lessons 1–17 Unit 6: Lessons 1–11
2.F	Restate, ask questions about, or respond to information during formal and informal classroom interactions.	Unit 1: Lessons 1–11, 13, 14, 16, 17 Unit 2: Lessons 1–10 Unit 3: Lessons 1–13, 16 Unit 4: Lessons 1, 3–5, 7–17 Unit 5: Lessons 1–5, 7–17 Unit 6: Lessons 1, 3–6, 8, 10, 11	Unit 1: Lessons 1–17 Unit 2: Lessons 1–10 Unit 3: Lessons 1–17 Unit 4: Lessons 1–17 Unit 5: Lessons 1–17 Unit 6: Lessons 1–11
Student expectations – Reading.		Student Edition and Teacher Edition Lesson(s)	Math Language Development Resources
The EB student reads a variety of texts for different purposes with an increasing level of comprehension in all content areas. The EB student may be at the preproduction, beginning, intermediate, high intermediate, or advanced proficiency levels of English language acquisition in reading. The student is expected to:			
3.A	Demonstrate awareness of print concepts and directionality of reading as left to right and top to bottom.	Unit 1: Lesson 4 Unit 2: Lessons 4, 5, 10 Unit 3: Lessons 7, 9 Unit 4: Lessons 9, 12, 14 Unit 5: Lessons 4, 8, 9, 14	<i>Refer to the Student Edition and Teacher Edition for coverage of this standard.</i>
3.B	Decode words using the relationships between sounds and letters and identify syllable patterns, cognates, affixes, roots, or base words.	Unit 3: Lesson 16 Unit 4: Lesson 6	<i>See also the Pronunciation Guides.</i> Grade 5: Letters and Sounds Units 1, 3–6: Vocabulary Cards Unit 1: Words With Multiple Meanings Unit 6: Words With Multiple Meanings
3.C	Use high-frequency words, contextual factors, and word analysis such as Greek and Latin prefixes, suffixes, and roots and cognates to comprehend content-area vocabulary in text.	Unit 1: Lessons 3, 13, 15, 16 Unit 3: Lessons 6, 11, 13, 15, 16 Unit 4: Lesson 1, 3, 6, 7 Unit 5: Lessons 8, 9 Unit 6: Lessons 2, 3, 6, 9, 10, 12	<i>See also the English/Spanish Cognates.</i> Units 1, 3–6: Vocabulary Cards Unit 1: Lessons 13, 14, 16 Unit 2: Lessons 2, 3 Unit 3: Lessons 7, 9, 11–14 Unit 4: Lesson 12 Unit 5: Lessons 7, 14, 15, 16 Unit 6: Words With Multiple Meanings, Lesson 6

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3.D	Use context to construct the meaning of figurative language such as idiomatic expressions, descriptive language, and words with multiple meanings to comprehend a variety of text.	Unit 1: Lessons 1–3, 8, 9, 15, 17 Unit 4: Lessons 1, 3, 4, 6–8, 14 Unit 5: Lessons 3, 8 Unit 6: Lessons 3, 6, 7, 9–12	<i>Refer to the Student Edition and Teacher Edition for coverage of this standard.</i>
3.E	Use pre-reading strategies, including previewing the text features, connecting to prior knowledge, organizing ideas, and making predictions to develop comprehension	Unit 1: Lessons 2, 5, 7, 10, 12, 13, 16 Unit 2: Lessons 3, 5, 7 Unit 3: Lesson 9 Unit 4: Lessons 1, 2, 6–9, 14 Unit 5: Lessons 2, 6, 16 Unit 6: Lessons 1–3, 6, 7, 9–12	Unit 1: Lessons 13, 14 Unit 3: Lessons 7, 9
3.F	Derive meaning from and demonstrate comprehension of content-area texts using visual, contextual, and linguistic supports	Unit 1: Lessons 1–3, 8–10, 12, 14–17 Unit 2: Lessons 3, 5, 7, 10 Unit 3: Lessons 6, 7, 11, 13–15 Unit 4: Lessons 1, 4, 6–9, 14 Unit 5: Lessons 3, 4, 6, 8–10, 12, 14 Unit 6: Lessons 1–3, 6, 7, 9–12	Unit 1: Words With Multiple Meanings, Lessons 13, 14, 16 Unit 2: Lessons 2, 3 Unit 3: Lessons 7, 11, 12 Unit 4: Lesson 12 Unit 5: Lessons 7, 14–16 Unit 6: Lesson 6
3.G	Demonstrate reading comprehension of content-area texts by retelling, paraphrasing, summarizing, and responding to questions	Unit 3: Lessons 2, 7, 9 Unit 4: Lessons 6, 9, 12, 14 Unit 5: Lessons 4, 8, 9, 14 Unit 6: Lesson 5	Unit 1: Lessons 13, 14 Unit 3: Lessons 7, 11
3.H	Read with fluency and prosody and demonstrate comprehension of content-area text.	Unit 1: Lessons 1, 13, 14, 16 Unit 2: Lessons 1–3, 10 Unit 3: Lessons 1, 2, 7, 9, 11–13 Unit 4: Lessons 9, 12, 14 Unit 5: Lessons 4, 7–9, 14–16 Unit 6: Lesson 6	<i>Refer to the Student Edition and Teacher Edition for coverage of this standard.</i>
Student expectations – Writing.		Student Edition and Teacher Edition Lesson(s)	Math Language Development Resources
The EB student writes using a variety of language structures with increasing accuracy to effectively address a variety of purposes (formal and informal) and audiences in all content areas. The EB student may be at the pre–production, beginning, intermediate, high intermediate, or advanced proficiency levels of English language acquisition in writing. The student is expected to:			
4.A	Apply relationships between sounds and letters of the English language to represent sounds when writing.	Unit 4: Lesson 6	<i>See also the Pronunciation Guides.</i> Grade 5: Letters and Sounds Units 1, 4–6: Vocabulary Cards Unit 6: Words With Multiple Meanings

4.B	Write text following conventional spelling patterns and rules.	Unit 4: Lesson 6	Grade 5: Letters and Sounds, How Do You Say It?, Putting Words Together Units 1, 4–6: Vocabulary Cards Unit 6: Words With Multiple Meanings
4.C	Write using a combination of high-frequency words and content-area vocabulary.	Unit 1: Lessons 12, 13 Unit 2: Lesson 5 Unit 3: Lessons 14, 17 Unit 4: Lesson 17 Unit 5: Lesson 6 Unit 6: Lessons 2, 12	Grade 5: Putting Words Together Unit 1: Lessons 3, 6, 11–13 Unit 2: Lessons 5, 8, 9 Unit 3: Lessons 7, 9, 11, 13, 14, 17 Unit 4: Lessons 9, 16 Unit 5: Lessons 10, 15, 17 Unit 6: Lessons 2, 12
4.D	Write content-area texts using a variety of sentence lengths and types and transition words.	Unit 1: Lessons 3, 6, 8, 11–13 Unit 2: Lessons 5, 8, 9 Unit 3: Lessons 1, 13, 14, 17 Unit 4: Lessons 9, 16 Unit 5: Lessons 6, 10, 15, 17 Unit 6: Lessons 2, 12	Grade 5: Putting Words Together Unit 1: Lessons 3, 6, 11–13 Unit 2: Lessons 5, 8, 9 Unit 3: Lessons 7, 9, 11, 13, 14, 17 Unit 4: Lessons 9, 16 Unit 5: Lessons 10, 15, 17 Unit 6: Lessons 2, 12
4.E	Write content-area specific text using conventions such as capitalization, punctuation, and abbreviations and grammatical structures such as subject-verb agreement, verb tense, possessive case, and contractions.	<i>Refer to the Math Language Development Resources for coverage of this standard.</i>	Grade 5: How Do You Say It?, Putting Words Together
4.F	Write to narrate, describe, explain, respond, or justify with supporting details and evidence using appropriate content, style, register, and conventions for specific purpose and audience.	Unit 1: Lessons 3, 6, 8, 11, 12, 13 Unit 2: Lessons 5, 8, 9 Unit 3: Lessons 1, 11, 13, 14, 17 Unit 4: Lessons 8, 9, 16 Unit 5: Lessons 6, 10, 15, 17 Unit 6: Lessons 2, 12	Unit 1: Lessons 3, 6, 11–13 Unit 2: Lessons 5, 8, 9 Unit 3: Lessons 7, 9, 11, 17 Unit 4: Lessons 9, 16 Unit 5: Lessons 10, 15, 17 Unit 6: Lessons 2, 12