Dear Teacher,

Welcome to Amplify Desmos Math! 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:

- **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 team

Unit 1 Introducing Multiplication

Represent and solve problems involving equal groups, including in the contexts of arrays and scaled graphs.

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Unit Story: My Name Is Harper In this story, a polar bear named Piho gets the opportunity to see and experience parts of the world from the same perspective as her friend Taka, an Arctic tern.

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SvedOliver/Shutterstock.com

Unit 2 Area and Multiplication

Explore area concepts and relate area to multiplication using rectangles and rectilinear shapes.

Unit Story: Cheri's New Home In this story, Cheri learns about her new home from the house's previous owner, Ms. Sarah.

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pfluegler-photo/Shutterstock.com

gamespirit/Shutterstock.com

Ground Picture/Shutterstock.com

Unit 3 Wrapping Up Addition and Subtraction Within 1,000

Develop fluency with addition and subtraction within 1,000 while using rounding and estimation to determine the reasonableness of answers.

Unit Story: The View From up Here In this story, Max climbs monuments, step by step, to photograph new perspectives.

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Ankshuman Baruah/Shutterstock.com

Kit Leong/Shutterstock.com

Lifestyle Travel Photo/Shutterstock.com

Unit 4 Relating Multiplication to Division

Explore the relationship between multiplication and division to multiply and divide whole numbers within 100.

Unit Story: Home Cooking In this story, Mateo and Amy prepare a surprise birthday meal for their most loyal customer, Mr. Gharbi.

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Art4Picture/Shutterstock.com

dreamstory/Shutterstock.com

Unit 5 Fractions as Numbers

Make sense of fractions as numbers and reason about fractions using area and number line diagrams.

Unit Story: Coen and Obita In this story, Coen lives alone until a tiny tailor moves into his home. Eventually, the two become friends and use their trade skills to make each other's lives easier.

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S_Photo/Shutterstock.com

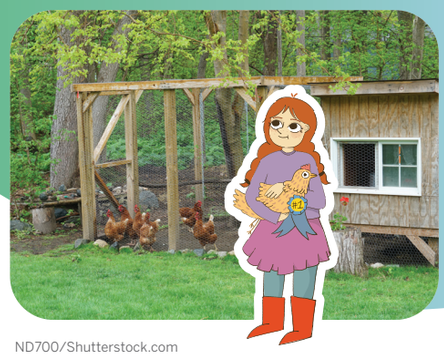
Artazum/Shutterstock.com

ppa/Shutterstock.com

Unit 6 Measuring Length, Time, Liquid Volume, and Weight

Students estimate, measure, and solve problems involving length, time, liquid volume, and weight.

Unit Story: Just Stick With It, Sasha In this story, Sasha learns about the patience and responsibility needed to raise a show chicken for a county fair competition.



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Piotr Krzeslak/Shutterstock.com

Vastram/Shutterstock.com

Guy J. Sagi/Shutterstock.com

Gretchen Gunda Enger/Shutterstock.com

Unit 7 Two-Dimensional Shapes and Perimeter

Students identify and define attributes of different quadrilaterals, and they explore the perimeter of two-dimensional shapes.

Unit Story: Through Piho's Eyes In this story, a polar bear named Piho gets the opportunity to see and experience parts of the world from the same perspective as her friend Taka, an Arctic tern.

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Don Mammoser/Shutterstock.com

SKYEX DRONE/Shutterstock.com

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

As we developed Amplify Desmos Math, 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

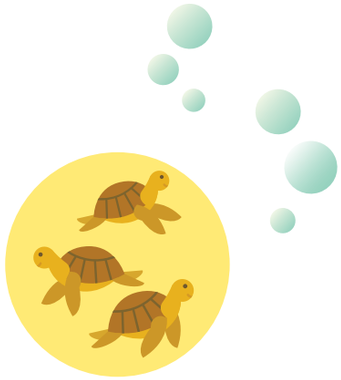
Lessons are designed around what we call the Proficiency Progression, a model that systematically builds on students' curiosity to develop lasting grade-level understanding.

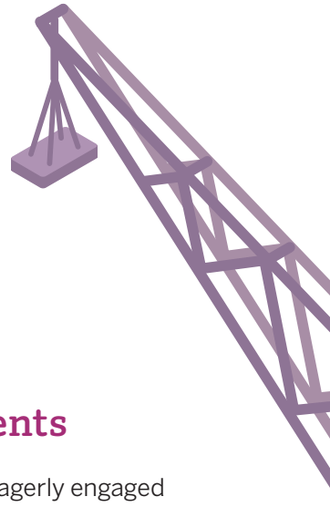
1. Activate students' prior knowledge and curiosity
2. Generate new ideas through collaboration
3. Refine ideas using facilitation tools
4. Guide to grade-level understanding
5. Practice, reinforce, remediate, and extend for lasting understanding

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.

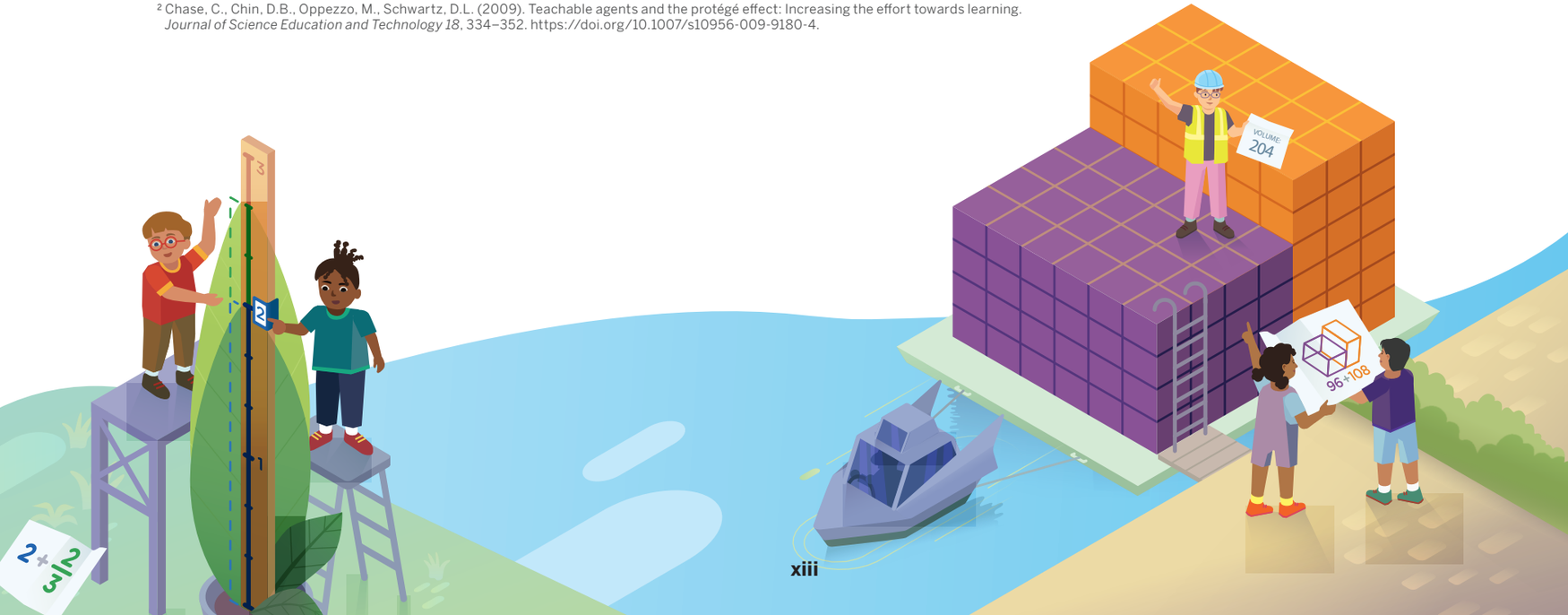
Math that motivates students

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 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

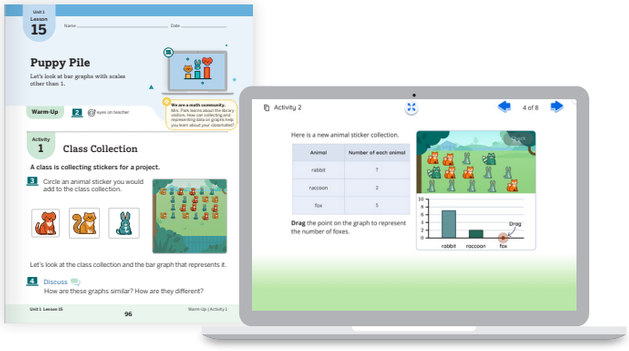
	Unit 1	Unit 2	Unit 3	Unit 4
Kindergarten 137 days total	Math in Our World 18 instructional days 3 assessment days 21 days total	Numbers 1–10 22 instructional days 4 assessment days 26 days total	Flat Shapes All Around Us 16 instructional days 2 assessment days 18 days total	Understanding Addition and Subtraction 20 instructional days 3 assessment days 23 days total
Grade 1 154 days total	Adding, Subtracting, and Working With Data 15 instructional days 4 assessment days 19 days total	Addition and Subtraction Story Problems 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 22 instructional days 5 assessment days 27 days total
Grade 2 155 days total	Working With Data and Solving Comparison Problems 16 instructional days 4 assessment days 20 days total	Adding and Subtracting Within 100 22 instructional days 5 assessment days 27 days total	Measuring Length 15 instructional days 4 assessment days 19 days total	Addition and Subtraction on the Number Line 13 instructional days 3 assessment days 16 days total
Grade 3 152 days total	Introducing Multiplication 18 instructional days 4 assessment days 22 days total	Area and Multiplication 13 instructional days 4 assessment days 17 days total	Wrapping Up Addition and Subtraction Within 1,000 22 instructional days 5 assessment days 27 days total	Relating Multiplication to Division 20 instructional days 5 assessment days 25 days total
Grade 4 148 days total	Factors and Multiples 11 instructional days 3 assessment days 14 days total	Fraction Equivalence and Comparison 15 instructional days 4 assessment days 19 days total	Extending Operations to Fractions 16 instructional days 4 assessment days 20 days total	From Hundredths to Hundred Thousands 21 instructional days 5 assessment days 26 days total
Grade 5 145 days total	Volume 14 instructional days 4 assessment days 18 days total	Fractions as Quotients and Fraction Multiplication 15 instructional days 4 assessment days 19 days total	Multiplying and Dividing Fractions 15 instructional days 3 assessment days 18 days total	Multiplication and Division With Multi-Digit Whole Numbers 18 instructional days 4 assessment days 22 days total

Volume 2

Unit 5	Unit 6	Unit 7	Unit 8
Make and Break Apart Numbers Within 10 15 instructional days 3 assessment days 18 days total	Numbers 0–20 11 instructional days 2 assessment days 13 days total	Solid Shapes All Around Us 16 instructional days 2 assessment days 18 days total	
Adding Within 100 14 instructional days 4 assessment days 18 days total	Measuring Lengths of up to 120 Length Units 15 instructional days 4 assessment days 19 days total	Geometry and Time 17 instructional days 4 assessment days 21 days total	
Numbers to 1,000 12 instructional days 3 assessment days 15 days total	Geometry and Time 15 instructional days 4 assessment days 19 days total	Adding and Subtracting Within 1,000 19 instructional days 4 assessment days 23 days total	Equal Groups 13 instructional days 3 assessment days 16 days total
Fractions as Numbers **17 instructional days** **5 assessment days** 22 days total	**Measuring Length, Time, Liquid Volume, and Weight** **17 instructional days** **5 assessment days** 22 days total	**Two-Dimensional Shapes and Perimeter** **13 instructional days** **4 assessment days** 17 days total	
Multiplicative Comparison and Measurement 17 instructional days 4 assessment days 21 days total	Multiplying and Dividing Multi-Digit Numbers 22 instructional days 4 assessment days 26 days total	Angles and Properties of Shapes 18 instructional days 4 assessment days 22 days total	
Place Value Patterns and Decimal Operations 24 instructional days 5 assessment days 29 days total	More Decimal and Fraction Operations 19 instructional days 4 assessment days 23 days total	Geometry and Patterns 12 instructional days 4 assessment days 16 days total	

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 and Lesson 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-leveled Supports

Additional Practice

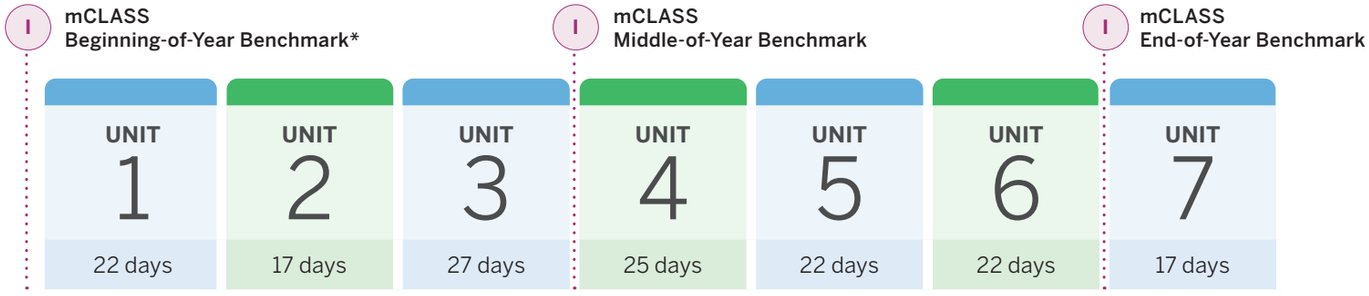
- Two pages of student practice per lesson
- Teacher Answer Keys

Optional: Manipulative Kits and Centers Kits

hand2mind

Program Architecture

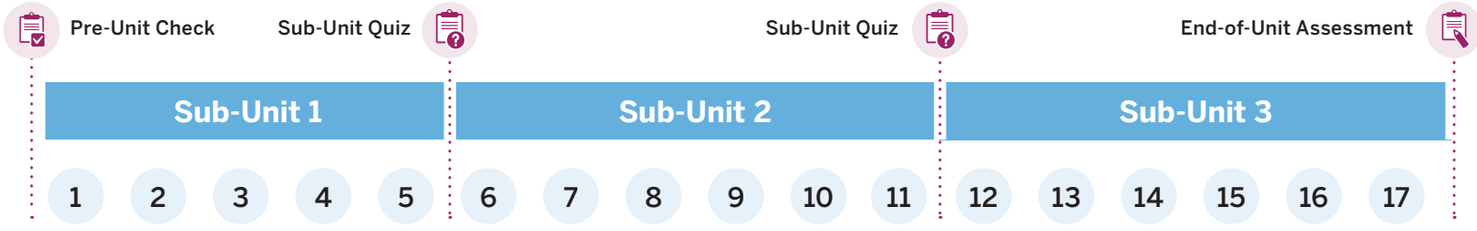
Course



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.

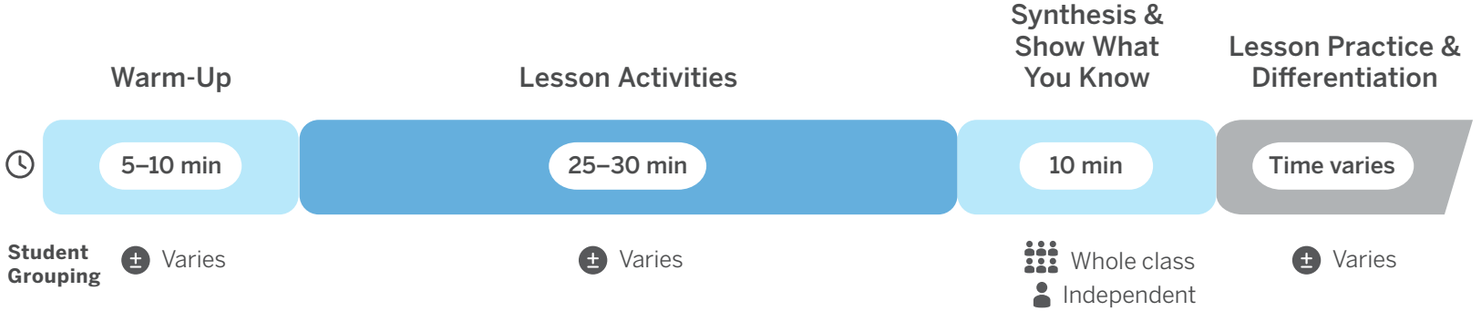
*A brief but powerful mCLASS Beginning-of-Year Screener is provided when mCLASS Benchmark is not included.

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

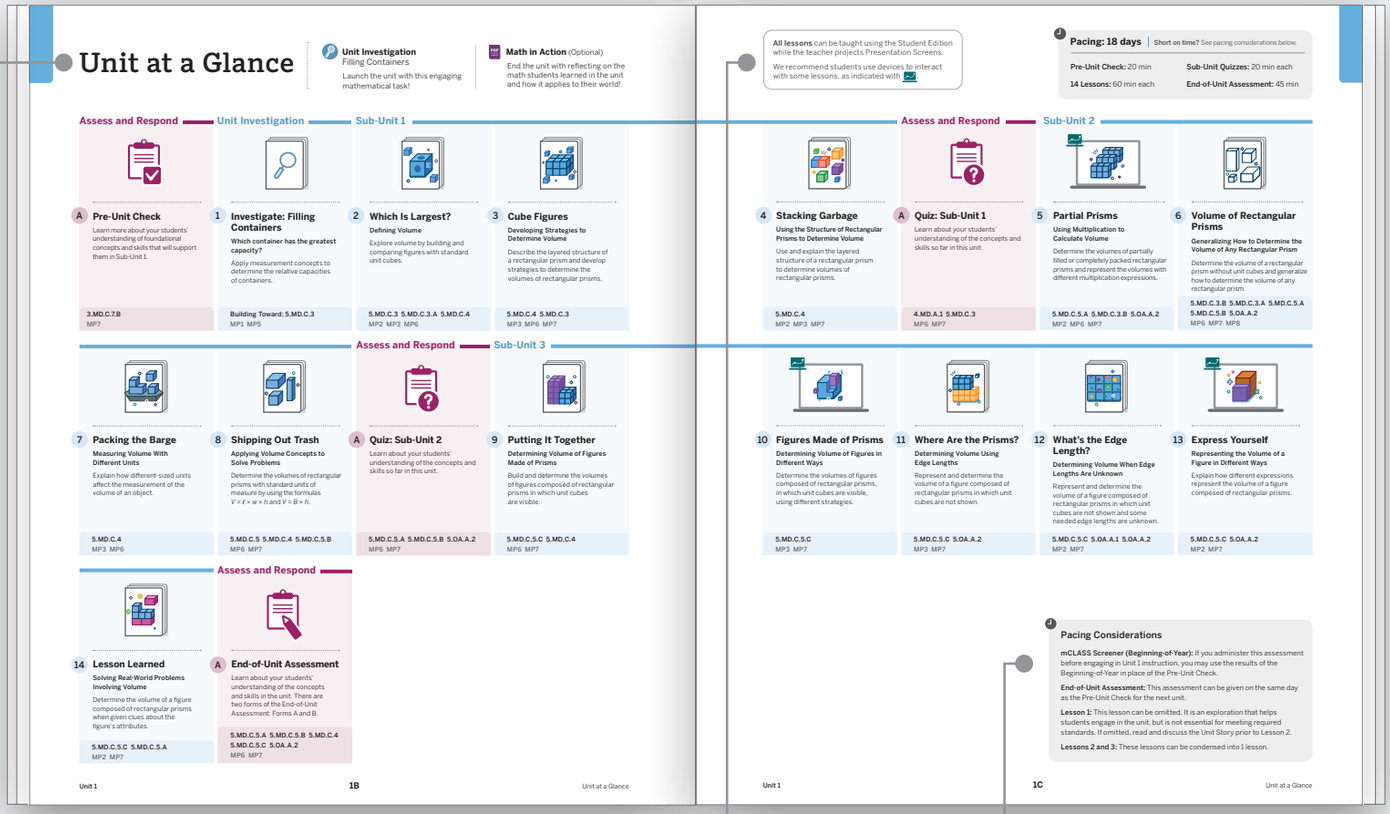


Navigating This Program

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.



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.

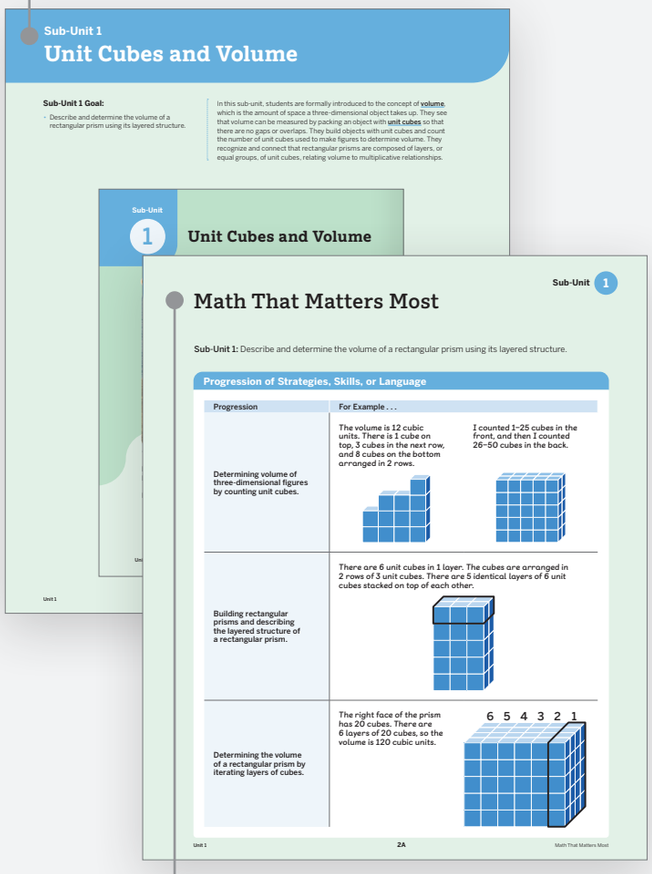
We recommend students use **devices** to interact with most lessons. These lessons can be taught using the Student Edition while the teacher projects the screens.

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

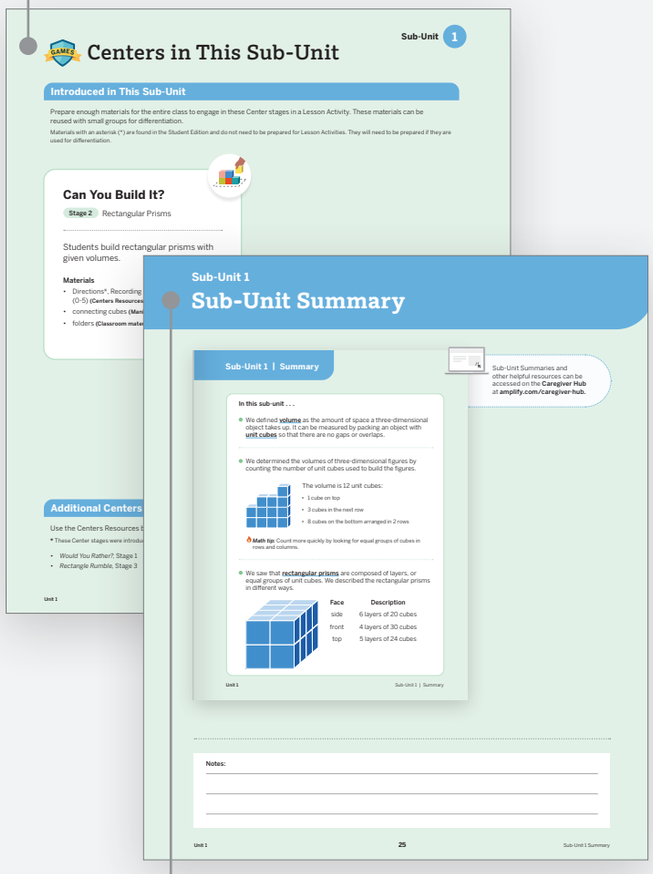
Teachers will find a comprehensive set of resources for each unit, including an overview of the math of the unit, a visual summary of the Unit at a Glance, a preview of each of the unit assessments, and unit guidance for differentiation, Centers, accessibility, language development, materials, technology, 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** clearly shows the goals and student-facing essential questions for the sub-unit.



Depending on the goals of the sub-unit, the **Math That Matters Most** page illustrates for teachers the most important progressions of either strategies, skills, or language that happen during the sub-unit.

This page lists all the **Centers** newly introduced in **Activities** in the sub-unit. For each new Center, it shows teachers a list of all the materials needed for repeated use. It also lists the Centers recommended for use beyond the lesson.



The **Summary** page clearly illustrates what students learned in the sub-unit, which aids teachers as they provide opportunities for practice and assessment of sub-unit topics.

Sub-Unit Overview pages

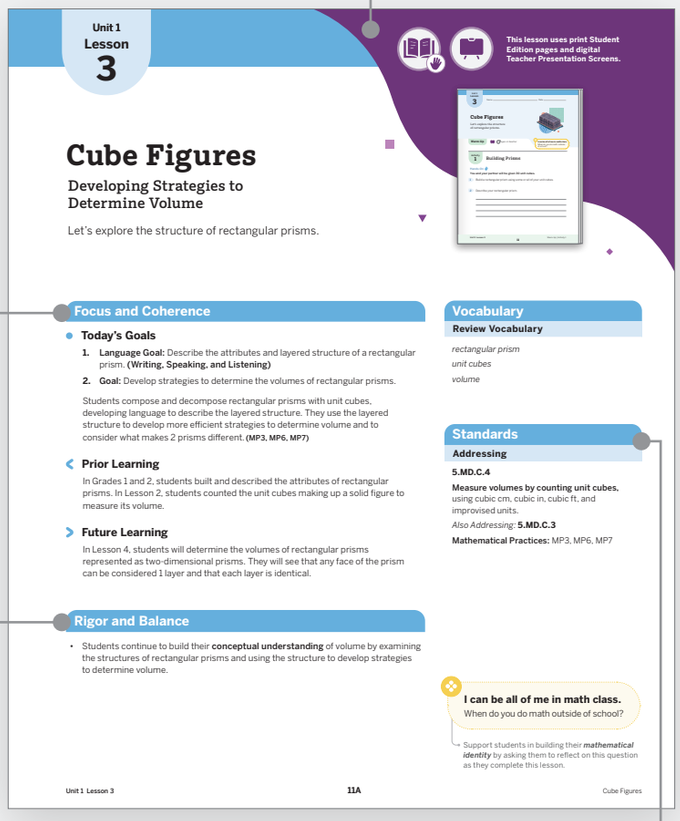
The lessons within each unit are grouped into sub-units that address a related group of concepts. Each sub-unit starts and ends with pages that focus on the key ideas of the sub-unit.

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.

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



In the **Focus and Coherence** section, 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.

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

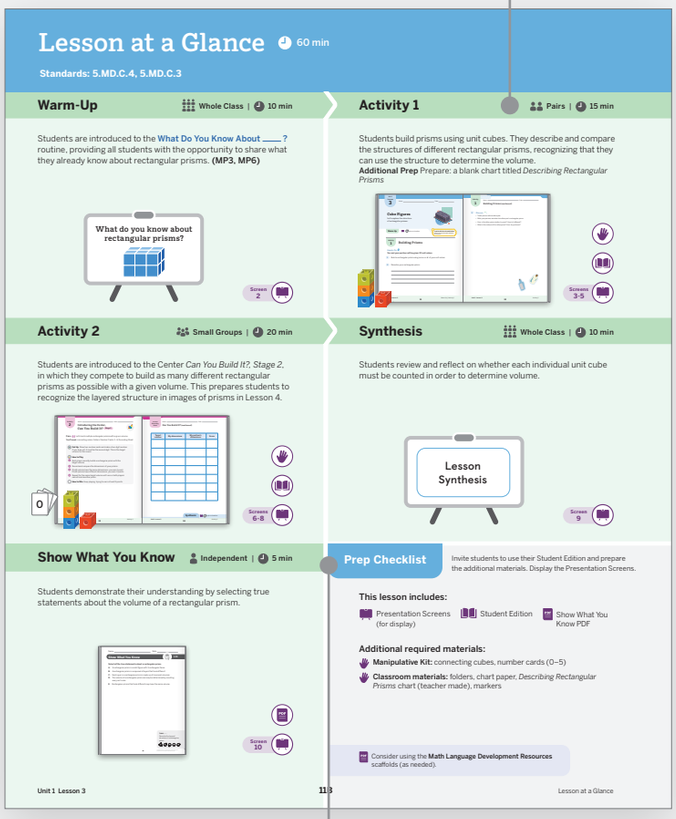
Where applicable, the **Standards** section will list all standards addressed in this lesson, including standards the lesson builds on and standards the lesson builds toward. The **bolded** words indicate which parts of each standard described are covered in the lesson.

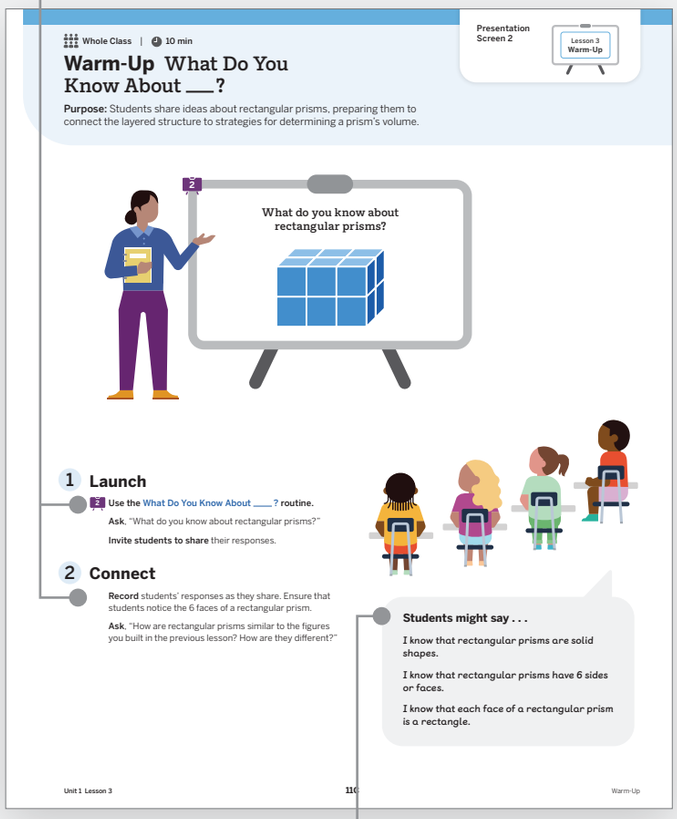
Lesson Overview

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.

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





The **Prep Checklist** lists all materials students will need for the lesson.

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 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.

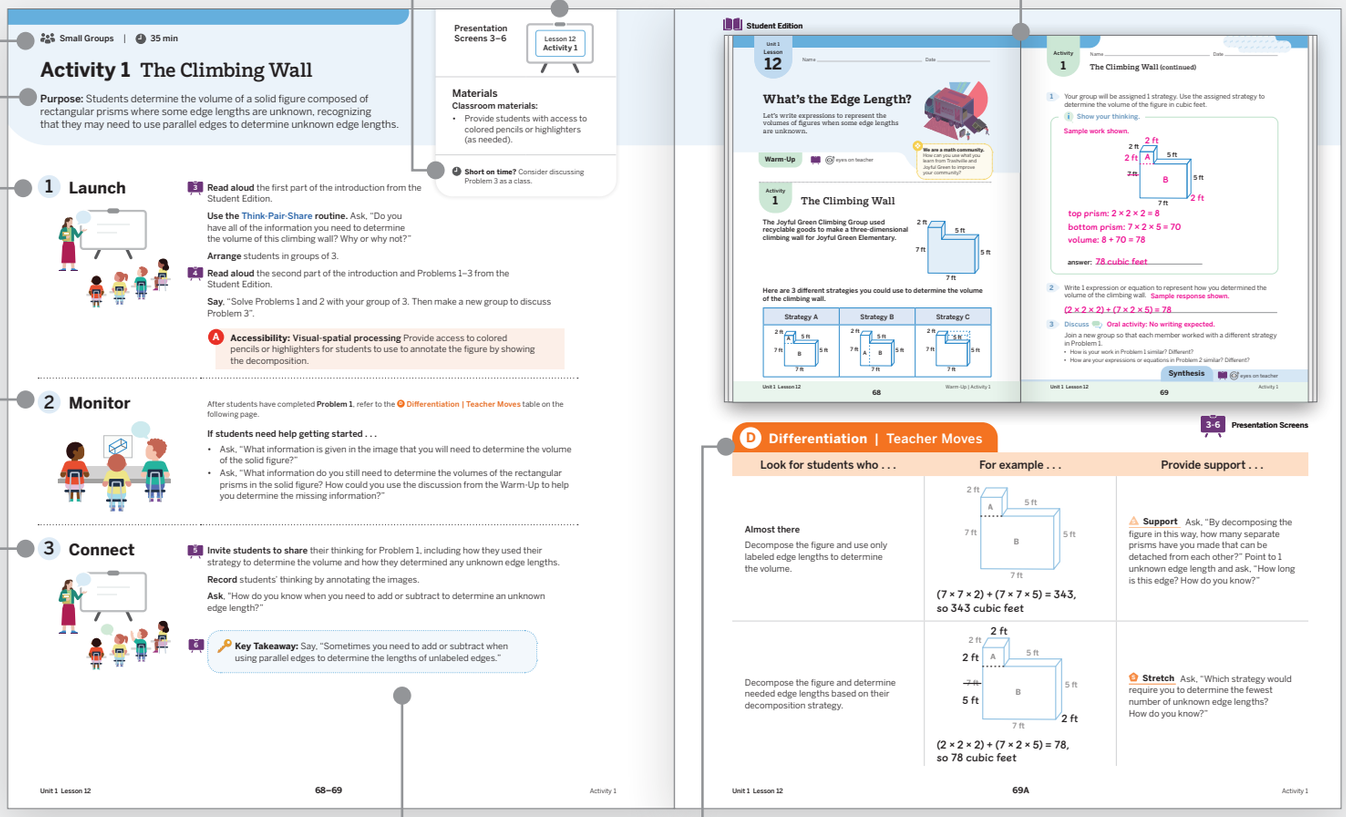
Navigating This Program

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.



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.

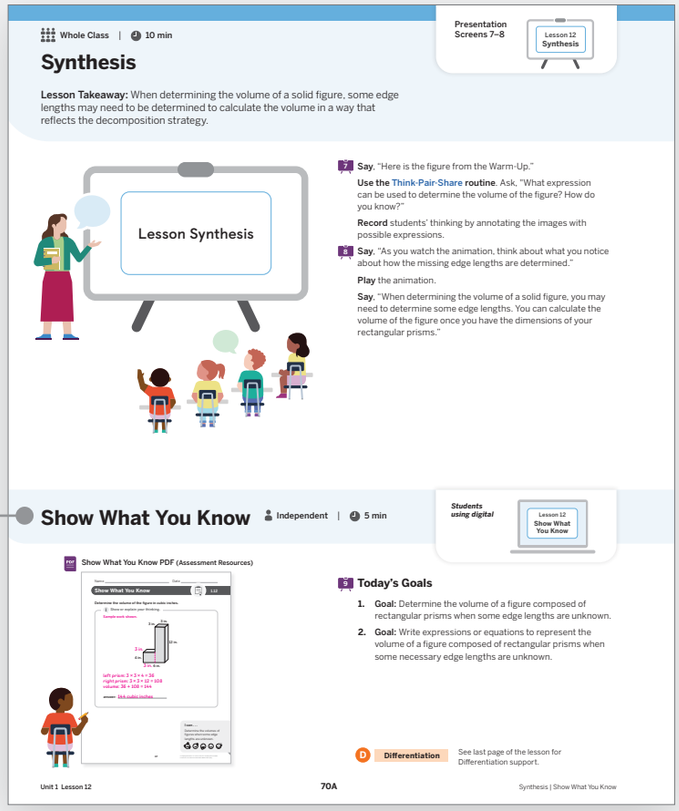
The guidance for every activity includes a **D Differentiation Teacher Moves** table to support teachers in meeting the needs of all students during the activity. This table can help teachers anticipate the ways students may approach the activity, and provides prompts that they can use during the lesson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

Activities

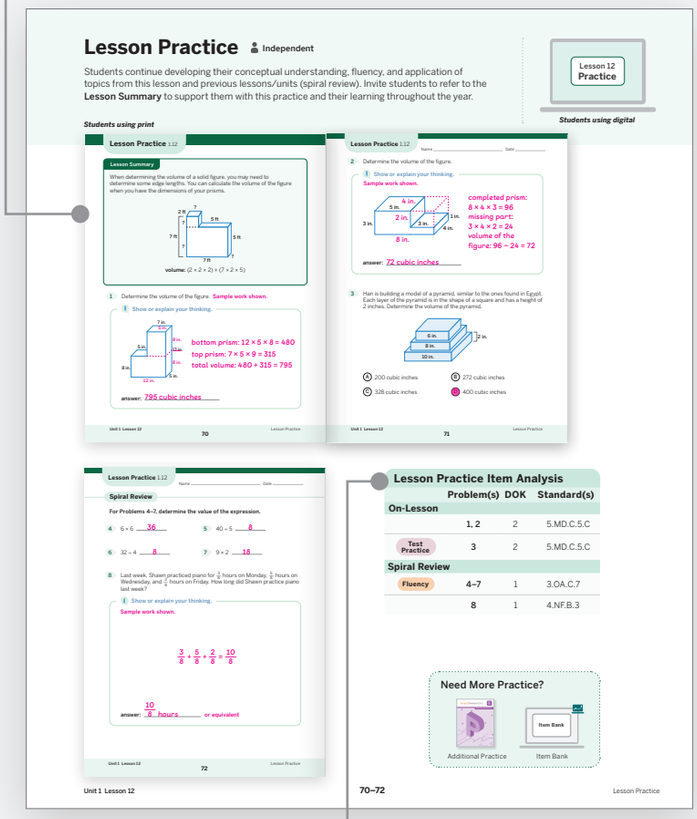
Each lesson includes one or two activities. These activities are the heart of each lesson. Students notice, wonder, explore, calculate, predict, measure, explain their thinking, settle disputes, create challenges for their classmates, and more.

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.

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.



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.



A **Practice Problem Item Analysis** table breaks down the problems by type, Depth of Knowledge (DOK), and corresponding standards.

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.

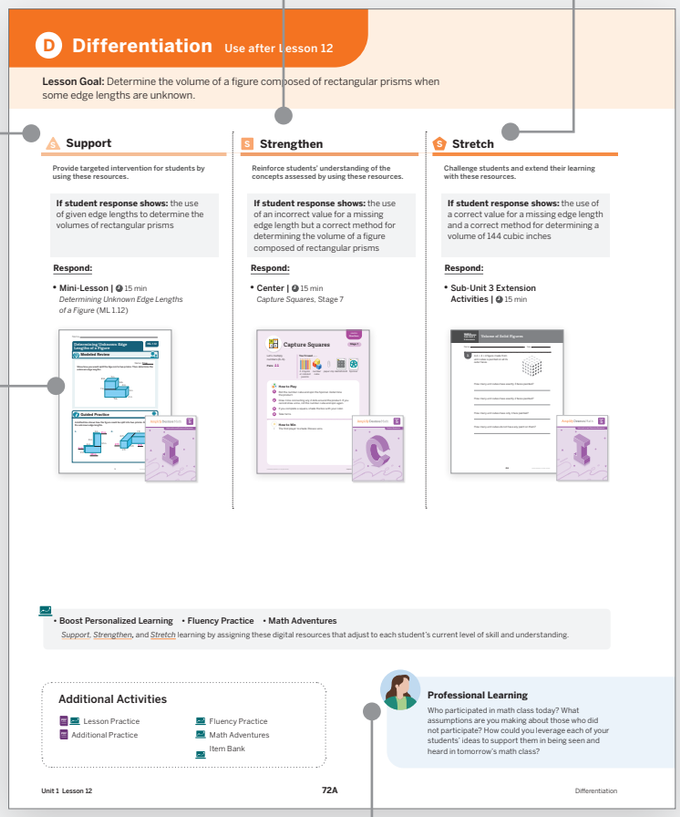
Lesson Practice

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

Support provides guidance for how to work with students who could benefit from targeted intervention.

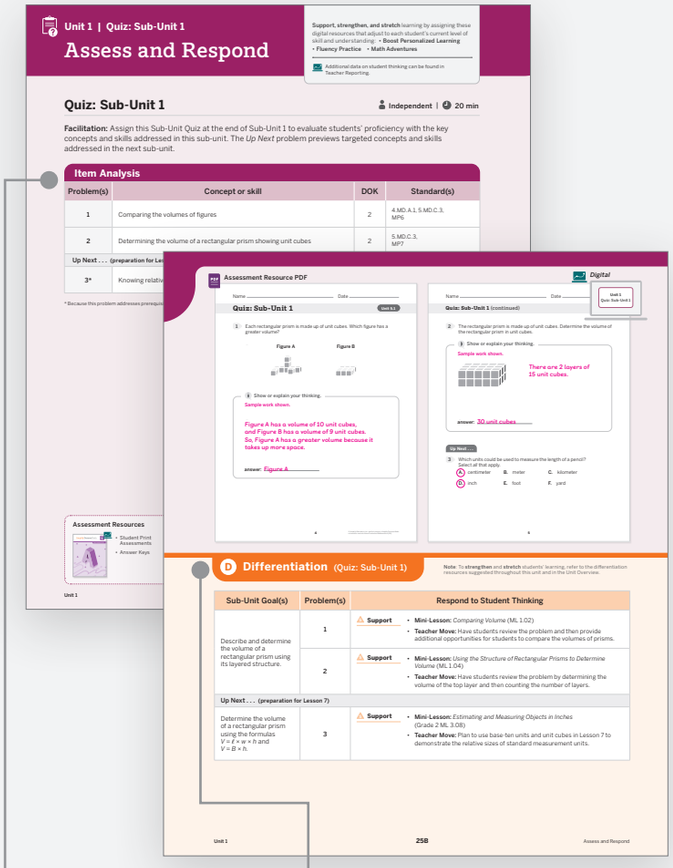
Strengthen lists resources for students to reinforce their understanding of the concepts.

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



Mini-Lessons provide targeted intervention to students who need additional support or need more time. Ideal for small-group or whole-class instruction, as well as independent learning.

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



An **Item Analysis** is provided to show what concepts and skills are assessed in each problem.

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

Differentiation

A comprehensive set of differentiation suggestions and resources are provided for teachers to use as needed after each lesson. This includes Mini-Lessons for Supporting, Centers for Strengthening, and Extension activities for Stretching students' understanding of the lesson goal.

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

Assess and Respond

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 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.

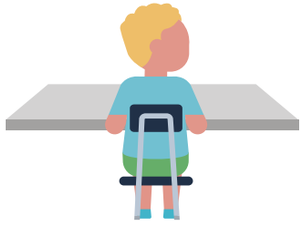
1 Launch

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

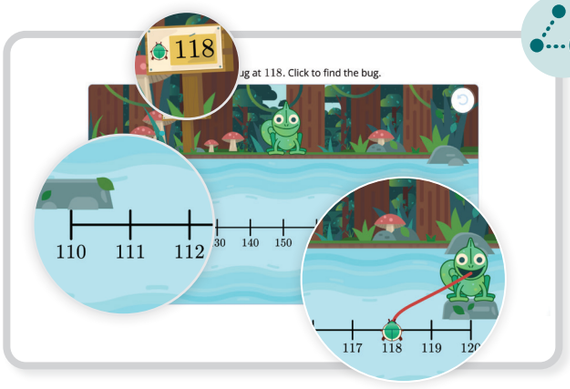
- Save a few minutes at the end of each lesson activity to bring students back together to discuss.
- As soon as you find you're ready to have discussions about common strategies, bring the class back for the connect. Often, this is before all students have finished on work.
- Students will be able to 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.

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

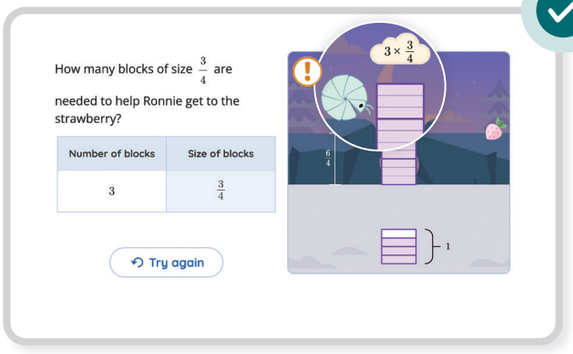
The Power of Digital

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™

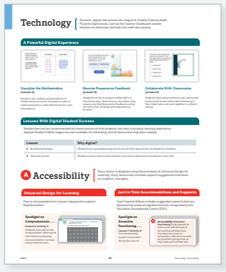
In Amplify Desmos Math, students are invited to try their thinking out — even if that thinking is still in the "rough draft" phase. As students interact with the digital screens, they see visuals and simulations that respond faithfully to their inputs. This meaningful feedback allows students to experience 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 number of these lessons increases developmentally across grade levels. If needed, aligned Student Edition pages are also available for notetaking and offline learning.

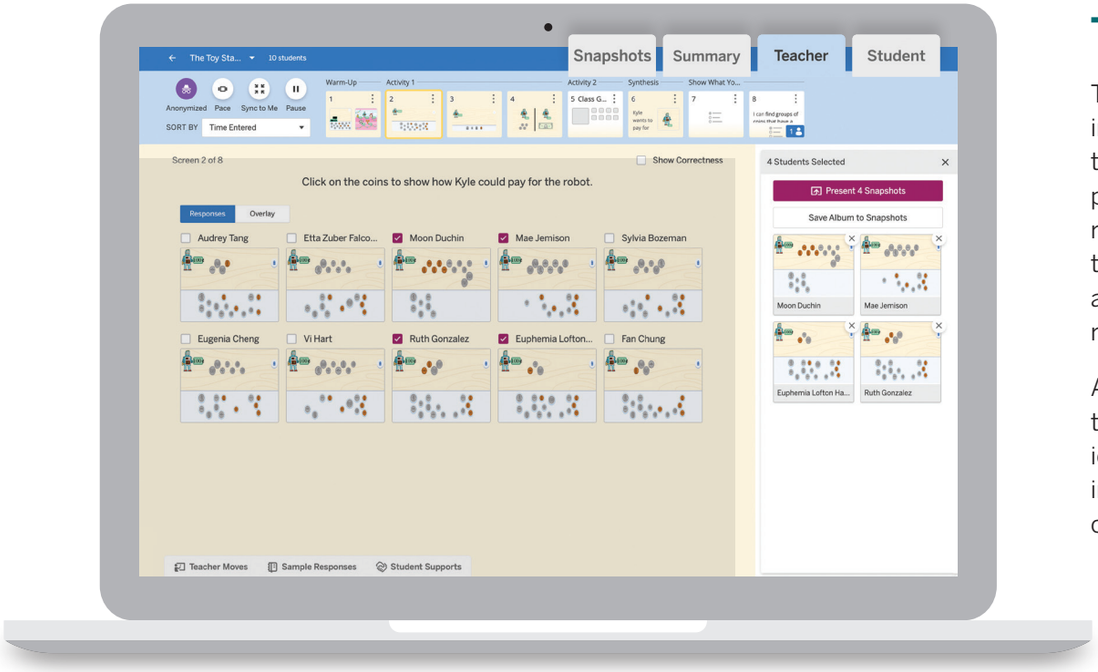


Presentation Screens

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 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

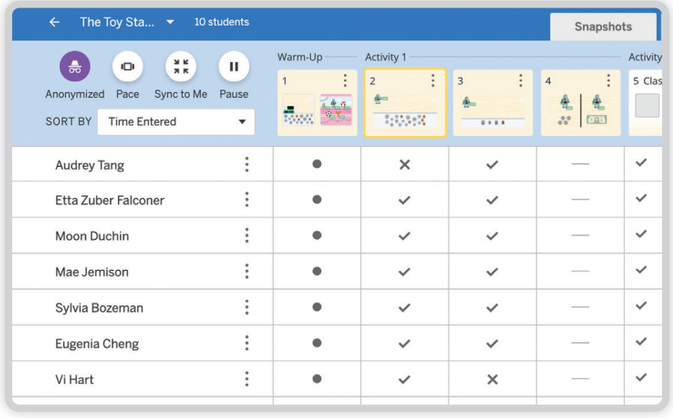
Pacing, pausing, and sync tools can support teachers as they encourage mathematical discourse and collaborative thinking in their classes.

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.



Math Identity and Community

Amplify Desmos Math lessons are structured to elicit all students' powerful math ideas. The Math Identity and Community feature supports teachers in helping students build confidence in their own mathematical thinking, develop skills to work with and learn from others when doing math, and learn how math is an interwoven part of their broader community.

Math Identity is how students see themselves in relation to learning about and engaging with math.

Math Community is both the supportive learning environment of the math classroom as well as how math is a part of students' larger communities.

Each classroom is a unique combination of students, teachers, and school cultures. Teachers will find **embedded suggestions** at the beginning of each lesson that they can use to provide opportunities for all students to mathematize their world. This is especially important for students who may not see themselves as belonging in math or may not see math as belonging in their lives.

Teachers can use the suggested prompts to broaden students' ideas about what it means to be good at math, highlight the value of each student's contributions, and celebrate math class as a place for coming together to think in flexible, creative, and interesting ways. These habits of mind can help students engage with math joyfully and successfully both in and outside of math class.

Embedded Suggestions

Here are some examples of the **Math Identity and Community** supports embedded in each lesson:

I can be all of me in math class.
You will work with partners every day in math class. What do you want your partners to know about you?

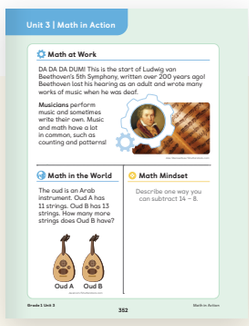
We are a math community.
What does good listening look like and sound like in a math community?

I am a doer of math.
What math strengths did you use today?

We are a math community.
How do you tell someone that you disagree with their math solution or answer?

Math in Action

Each unit includes a **Math in Action** page that is available in the digital program. This page provides opportunities for students to make connections to the content of the unit and showcases the ways it appears in the world. Math in Action also allows a space for student self-reflection on those connections.



Bringing Math to Life

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

Unit Stories

Every unit in Amplify Desmos Math 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 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 Resource 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

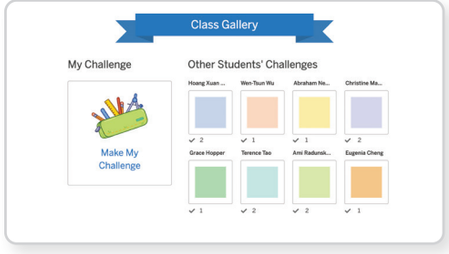
Amplify Desmos Math is built to support all students in accessing and participating in meaningful and challenging learning. This support is incorporated into the curriculum structure, lesson-level guidance, and digital tools.

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

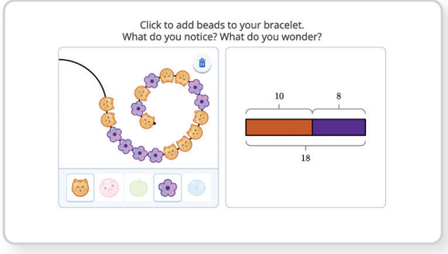
Individuals are each motivated in different ways, at different times, and in different contexts. Lessons are designed to welcome interests and identities, support sustaining effort and persistence, and develop emotional capacity.



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

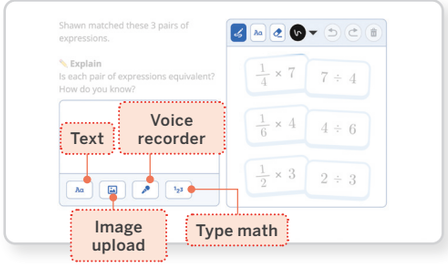
Learners make sense of information differently. Amplify Desmos Math includes options for presenting information in multiple ways to support comprehension and understanding of language.



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 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.

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.

[1] https://udlguidelines.cast.org/

Differentiation

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

Support

Provide targeted intervention for students by using these resources.

Strengthen

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

Stretch

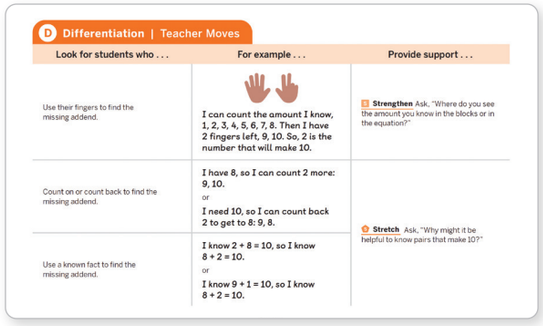
Challenge students and extend their learning with these resources.

Differentiation: In-Lesson Teacher Moves

Within every lesson activity, teachers can use the **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.

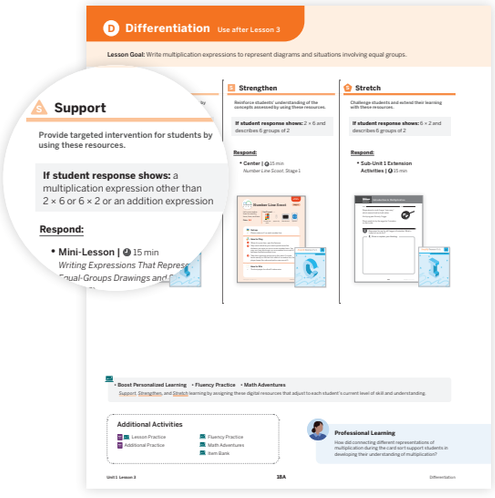


Differentiation: Beyond the Lesson

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.



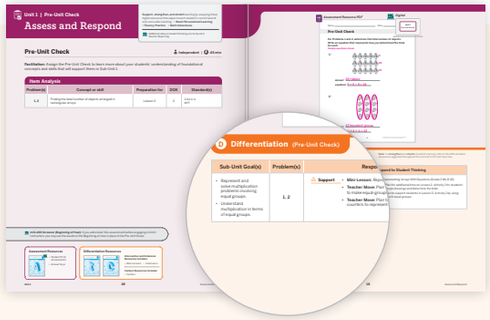
Teachers can also assign digital resources to Support, Strengthen, and Stretch student learning: **Boost Personalized Learning, Fluency Practice**, and **Math Adventures.**

» Amplify Desmos Math 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 day's core lesson, with each student receiving personalized scaffolds based on what they already know.

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.



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:

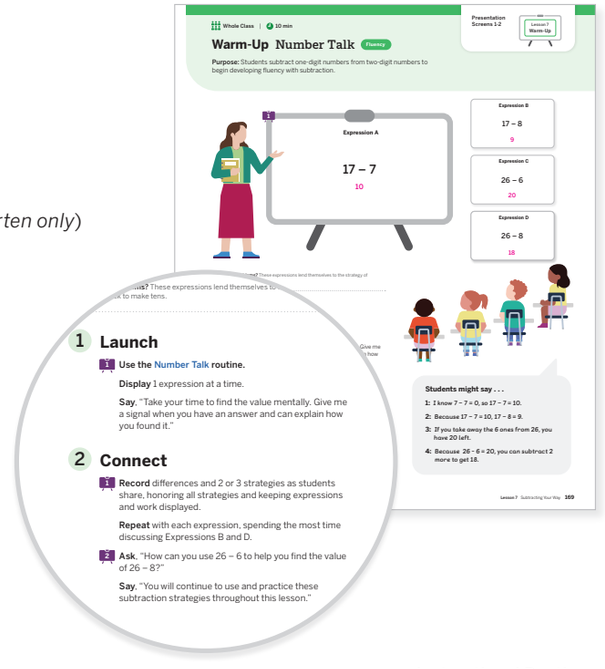
- The **Which One Doesn't Belong?** routine communicates to students that their ideas have value, that there are many ways to be correct in math, and that they can learn math by sharing their math thinking with each other.
- The **Stronger and Clearer Each Time** routine communicates the importance of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

Math Language Development

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

At Amplify Desmos Math, we acknowledge that there is a strong interconnection between mathematical content, practices, and language. We believe that developing mathematical language is critical for all learners, while recognizing and supporting the unique needs of Multilingual/English Learners.

Our approach to math language development focuses on when, how, and why students are using language to make sense of and share their mathematical ideas. Every lesson in Amplify Desmos Math includes opportunities for all students to develop mathematical language as they experience the content, while providing intentional support for Multilingual/English Learners. We purposefully progress language throughout the units by cultivating students' language and supporting students in making their arguments and explanations stronger, clearer, and more precise as they progress from lesson to lesson.

Here are four ways we support students with developing mathematical language:

Vocabulary

Units and lessons start by surfacing students' language for new concepts and then build connections between their language and the **new vocabulary** for that unit. This honors the language assets that students bring into their learning.

- Collect the language students use as they share their responses, such as "dollar," "dollar sign ($)," "100¢," "4 quarters," and "10 dimes."
- Add the language below the images of the dollar bill on the *Quarter and One Dollar Bill* chart. Students may mention bills of different values.

Key Takeaway: Say, "A **dollar** is a unit of money worth 100 cents. When you write dollar amounts, you use the $ symbol."

Language Goals

Language goals attend to the mathematics students are learning and are written through the lens of one or more of four language modalities: **Reading**, **Writing**, **Speaking**, and **Listening**.

- **Today's Goal**
  1. **Language Goal:** Represent and describe situations involving equal groups. **(Speaking, Listening, and Writing)**

Math Language Routines (MLR)

MLR **Math Language Routines**[1] are used within lessons to do one or more of the following: highlight student-developed language and ideas, cultivate conversation, support mathematical sense-making, and promote meta-cognition. Tips for facilitating MLRs are included when they would be helpful within lessons.

MLR **MLR3: Critique, Correct, Clarify**
Use the Think-Pair-Share routine. Ask:

- *Critique*: "What might Priya be trying to do to calculate the area of this figure? How do you know?" As students share, use the sketch tool to shade the rectangles that overlap.
- *Correct*: "What could you add or change to make Priya's work true?" As students share, record the correct decomposition and equations to match.
- *Clarify*: "What could you add or change to make Priya's work easier to understand?"

[1] Zwiers, J., Dieckmann, J., Rutherford-Quach, S., Daro, V., Skarin, R., Weiss, S., & Malamut, J. (2017). Principles for the Design of Mathematics Curricula: Promoting Language and Content Development. Retrieved from Stanford University, UL/SCALE website: http://ell.stanford.edu/content/mathematics-resources-additional-resources

Multilingual/English Learners Support

Supports for ML/EL **Multilingual/English Learners** are called out at intentional points within each lesson. These suggested supports are specific, targeted actions that are beneficial for Multilingual/English Learners. They often describe a modification to increase access to the task or support with contextual or mathematical language development that can often be supportive of all learners. Multilingual/English Learners supports may also be attached to MLRs.

ML/EL **Multilingual/English Learners** Encourage students to draw visual models or represent their subtraction problems with manipulatives to help others see what they are explaining.

Spanish translations of student-facing materials are available both digitally and in print, and can be accessed on each lesson page.

Program Assessments

A variety of performance data in Amplify Desmos Math 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, understanding is made continually visible.

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

Lesson-Level Assessments

Amplify Desmos Math 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.

***Performance Tasks** are included in Grades 3–5.

Course-Level Assessments

The asset-based digital **mCLASS Assessments** system measures proficiency, reveals underlying mathematical thinking, and informs instructional support for every learner. The **mCLASS Benchmark** is administered three times a year with mCLASS Progress Monitoring to helps track students' math performance between Benchmark assessments. A brief, yet powerful **Beginning-of-Year Screener** is provided when full access to mCLASS is not included. These help target intervention areas and identify specific areas of strength and development to inform differentiation.

Standards for Mathematical Content

The following correlations show the alignment of Amplify Desmos Math to the Content Standards for Grade 3.

3.OA	Operations and Algebraic Thinking	Lesson(s)
3.OA.A	**Represent and solve problems involving multiplication and division.**	**Unit 1,** Lessons 2, 3
3.OA.A.1	Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. For example, describe a context in which a total number of objects can be expressed as 5 × 7.	**Unit 1,** Lessons 2, 4, 6–10 **Unit 3,** Lessons 20, 21
3.OA.A.2	Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.	**Unit 4,** Lessons 2–6, 16, 18
3.OA.A.3	Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.	**Unit 1,** Lessons 4–6, 10, 11 **Unit 2,** Lessons 9, 12, 13 **Unit 4,** Lessons 3, 4, 6, 12, 13, 16, 17, 19 **Unit 6,** Lessons 16, 17
3.OA.A.4	Determine the unknown whole number in a multiplication or division equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = _ ÷ 3, 6 × 6 = ?	**Unit 1,** Lessons 5–7
3.OA.B	**Understand properties of multiplication and the relationship between multiplication and division.**	
3.OA.B.5	Apply properties of operations as strategies to multiply and divide. Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.)	**Unit 1,** Lesson 9 **Unit 2,** Lessons 6–9 **Unit 3,** Lesson 14 **Unit 4,** Lessons 12–15, 17–19 **Unit 5,** Lesson 11
3.OA.B.6	Understand division as an unknown-factor problem. For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.	**Unit 4,** Lessons 5–7 **Unit 6,** Lesson 16
3.OA.C	**Multiply and divide within 100.**	
3.OA.C.7	Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.	**Unit 1,** Lessons 5–7, 10, 11 **Unit 2,** Lesson 11 **Unit 4,** Lessons 7–10 **Unit 6,** Lessons 8, 10 **Unit 7,** Lessons 9, 11, 12
3.OA.D	**Solve problems involving the four operations, and identify and explain patterns in arithmetic.**	**Unit 2,** Lesson 4
3.OA.D.8	Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	**Unit 3,** Lessons 19–22 **Unit 4,** Lessons 15, 20 **Unit 7,** Lesson 10

Standards for Mathematical Content

3.OA.D.9	Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.	**Unit 3,** Lesson 2 **Unit 4,** Lesson 8
3.NBT	**Number and Operations in Base Ten**	**Lesson(s)**
3.NBT.A	**Use place value understanding and properties of operations to perform muli-digit arithmetic.**	
3.NBT.A.1	Use place value understanding to round whole numbers to the nearest 10 or 100.	**Unit 3,** Lessons 15–18
3.NBT.A.2	Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	**Unit 3,** Lessons 2–14 **Unit 6,** Lesson 8 **Unit 7,** Lesson 7
3.NBT.A.3	Multiply one-digit whole numbers by multiples of 10 in the range 10-90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.	**Unit 4,** Lessons 6, 11, 15, 18 **Unit 7,** Lesson 2
3.NF	**Number and Operations—Fractions**	**Lesson(s)**
3.NF.1	**Develop understanding of fractions as numbers.**	
3.NF.A.1	Understand a fraction $\frac{1}{b}$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction $\frac{a}{b}$ as the quantity formed by a parts of size $\frac{1}{b}$.	**Unit 5,** Lessons 1–5
3.NF.A.2	Understand a fraction as a number on the number line; represent fractions on a number line diagram.	**Unit 5,** Lessons 6–9 **Unit 6,** Lessons 5, 10
3.NF.A.2.A	Represent a fraction $\frac{1}{b}$ on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size $\frac{1}{b}$ and that the endpoint of the part based at 0 locates the number $\frac{1}{b}$ on the number line.	**Unit 5,** Lesson 6
3.NF.A.2.B	Represent a fraction $\frac{a}{b}$ on a number line diagram by marking off a lengths $\frac{1}{b}$ from 0. Recognize that the resulting interval has size $\frac{a}{b}$ and that its endpoint locates the number $\frac{a}{b}$ on the number line.	**Unit 5,** Lesson 7
3.NF.A.3	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.	**Unit 5,** Lessons 8, 10–17
3.NF.A.3.A	Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.	**Unit 5,** Lessons 10–12
3.NF.A.3.B	Recognize and generate simple equivalent fractions, e.g., $\frac{1}{2} = \frac{2}{4}$, $\frac{4}{6} = \frac{2}{3}$. Explain why the fractions are equivalent, e.g., by using a visual fraction model.	**Unit 5,** Lessons 10–12 **Unit 6,** Lesson 4
3.NF.A.3.C	Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form $3 = \frac{3}{1}$; recognize that $\frac{6}{1} = 6$; locate $\frac{4}{4}$ and 1 at the same point of a number line diagram.	**Unit 5,** Lessons 8, 9, 13, 14 **Unit 6,** Lessons 2, 3
3.NF.A.3.D	Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.	**Unit 5,** Lessons 15–17

3.MD	Measurement and Data	Lesson(s)
3.MD.A	**Solve problems involving measurement and estimation.**	
3.MD.A.1	Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.	**Unit 6,** Lessons 11–14, 17
3.MD.A.2	Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.	**Unit 6,** Lessons 7–10, 15–17
3.MD.B	**Represent and interpret data.**	**Unit 1,** Lesson 13
3.MD.B.3	Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. For example, draw a bar graph in which each square in the bar graph might represent 5 pets.	**Unit 1,** Lessons 14–18
3.MD.B.4	Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.	**Unit 6,** Lessons 1–6
3.MD.C	**Geometric measurement: understand concepts of area and relate area to multiplication and to addition.**	**Unit 7,** Lessons 12, 13
3.MD.C.5	Recognize area as an attribute of plane figures and understand concepts of area measurement.	**Unit 2,** Lessons 2, 5, 13 **Unit 7,** Lesson 10
3.MD.C.5.A	A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area.	**Unit 2,** Lesson 3
3.MD.C.5.B	A plane figure which can be covered without gaps or overlaps by *n* unit squares is said to have an area of *n* square units.	**Unit 2,** Lesson 3
3.MD.C.6	Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).	**Unit 2,** Lessons 3–5, 13
3.MD.C.7	Relate area to the operations of multiplication and addition.	**Unit 7,** Lessons 10, 11
3.MD.C.7.A	Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.	**Unit 2,** Lessons 6–7
3.MD.C.7.B	Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.	**Unit 2,** Lessons 6–9, 13
3.MD.C.7.C	Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.	**Unit 4,** Lessons 9, 10, 13
3.MD.C.7.D	Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.	**Unit 2,** Lessons 10–13

Standards for Mathematical Content

3.MD.D	**Geometric measurement: recognize perimeter.**	
3.MD.D.8	Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	**Unit 7,** Lessons 6–13
3.G	**Geometry**	**Lesson(s)**
3.G.A	**Reason with shapes and their attributes.**	
3.G.A.1	Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.	**Unit 7,** Lessons 2–5, 8, 9
3.G.A.2	Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. For example, partition a shape into 4 parts with equal area, and describe the area of each part as $\frac{1}{4}$ of the area of the shape.	**Unit 5,** Lesson 3

Standards for Mathematical Practice

The following correlations show the alignment of Amplify Desmos Math to the Standards for Mathematical Practice.

MP1 Make sense of problems and persevere in solving them.

Unit 1, Lessons 1, 3–5, 10, 11, 13, 17, 18
Unit 2, Lessons 1, 2, 7, 9, 11, 13
Unit 3, Lessons 1, 4, 5, 8, 9, 10, 14, 19, 21

Unit 4, Lessons 1, 3, 4, 6, 9, 13, 15–20
Unit 5, Lessons 1, 14

Unit 6, Lessons 1, 9, 13
Unit 7, Lessons 1, 8–10, 13

MP2 Reason abstractly and quantitatively.

Unit 1, Lessons 1–7, 10, 12–14, 17,
Unit 2, Lessons 3–7, 11
Unit 3, Lessons 1, 3, 5, 9, 20–22

Unit 4, Lessons 1, 2, 4–6, 9, 10, 12, 13, 15, 17, 20
Unit 5, Lessons 10–12, 14, 15

Unit 6, Lessons 1, 3, 5, 13–17
Unit 7, Lesson 10

MP3 Construct viable arguments and critique the reasoning of others.

Unit 1, Lessons 7, 15, 16
Unit 2, Lessons 1–5, 7, 11, 12
Unit 3, Lessons 4, 6, 11, 13, 19, 20

Unit 4, Lessons 6, 10, 12, 13, 15, 18
Unit 5, Lessons 2, 3

Unit 6, Lessons 1, 3, 8, 10, 14, 16
Unit 7, Lessons 3, 4, 7, 8, 10, 11

MP4 Model with mathematics.

Unit 1, Lessons 2, 6, 11, 16
Unit 2, Lessons 4, 9, 13
Unit 3, Lessons 1, 21, 22

Unit 4, Lessons 3, 5, 17
Unit 5, Lessons 5, 12

Unit 6, Lessons 2, 16
Unit 7, Lesson 13

MP5 Use appropriate tools strategically.

Unit 2, Lessons 1, 8
Unit 3, Lessons 3, 8, 9, 11, 14, 19–21

Unit 4, Lessons 11, 16

Unit 6, Lessons 2, 8

MP6 Attend to precision.

Unit 1, Lessons 1, 7, 8, 14–17
Unit 2, Lessons 2, 3, 5, 8, 10

Unit 3, Lessons 4, 6, 7, 10–13, 15, 17, 19, 22
Unit 4, Lessons 2, 10, 13

Unit 5, Lessons 1–3, 6, 7, 10, 11
Unit 6, Lessons 2–4, 6, 11, 12, 17
Unit 7, Lessons 2–6

MP7 Look for and make use of structure.

Unit 1, Lessons 2–7, 9–11, 13–18
Unit 2, Lessons 3, 5–12
Unit 3, Lessons 2–5, 7–19

Unit 4, Lessons 1, 3–8, 10–12, 14, 15, 17–19
Unit 5, Lessons 1, 3–11, 13–17

Unit 6, Lessons 2, 4–8, 10–12, 14–17
Unit 7, Lessons 1–9, 11–13

MP8 Look for and express regularity in repeated reasoning.

Unit 1, Lessons 2, 5–11, 13, 18
Unit 2, Lesson 9

Unit 3, Lessons 2, 3, 5, 7, 9, 10, 13, 14, 16, 18
Unit 4, Lessons 3–7, 9, 14, 17, 19

Unit 5, Lessons 5, 8–11, 13–17
Unit 6, Lessons 6, 7, 10, 14, 15, 17
Unit 7, Lessons 7, 9, 11, 12