Amplify Desmos Math

GRADE 1

Ancillary Sampler

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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Overview information

Welcome to your Amplify Desmos Math ancillary sampler!

One of the core tenets of the program's design is that students can catch up while keeping up with grade-level math. To ensure all students access grade-level math, Amplify Desmos Math includes core instruction, a suite of assessments, and tailored practice resources that adjust to student learning.

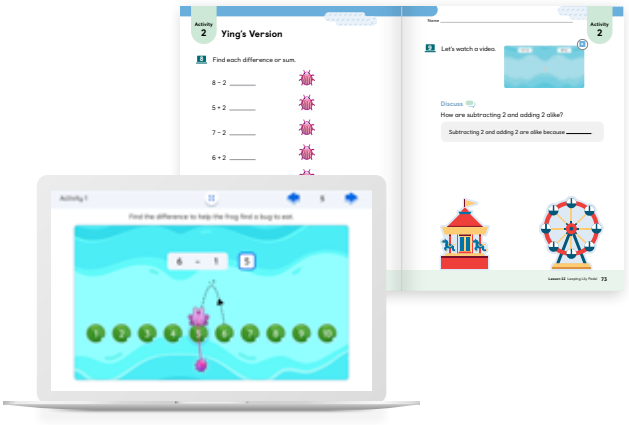
Multiple points of entry to lesson content and Responsive Feedback enable every student to be challenged, yet successful. Cohesive differentiation and intervention resources provide the necessary support to prevent students from falling behind or allow them to extend their thinking.

Amplify Desmos Math includes print blackline master ancillaries for Assessment, and Intervention. On the pages that follow, you'll find examples of Amplify Desmos Math Mini-Lessons, assessment resources from a sample unit, centers, and more.

Sample resources

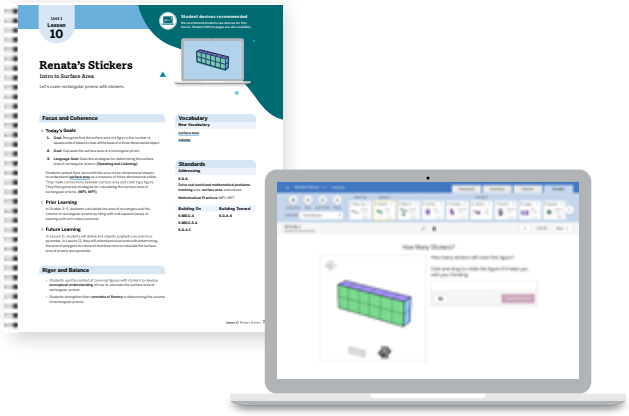
Program Resources

For Students



- Student Edition (two volumes)
- Digital access to lesson resources and practice
- Interactive student activity screens
- Responsive F eedback
- Collaboration tools
- Personalized practice

For Teachers



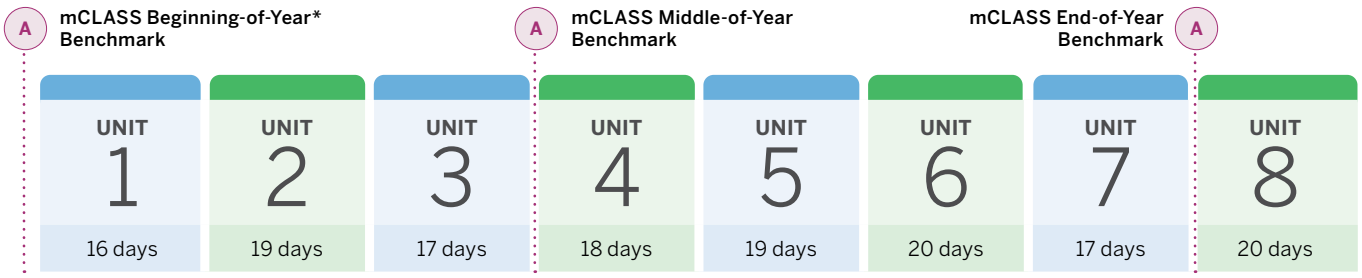
- Teacher Edition (two volumes)
- Digital access to planning and instruction resources
- Presentation Screens
- Facilitation and progress-monitoring tools
- Assessment and reporting suite, including mCLASS® Assessments

Optional: Manipulative Kits

Assessment Resources, Center Resources, Intervention and Extension Resources

Program Architecture

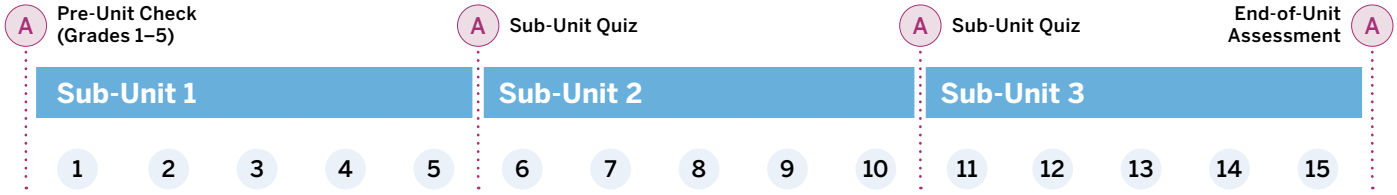
Course



Note: The number of lessons varies from unit to unit. See Scope and Sequence for the full program scope.

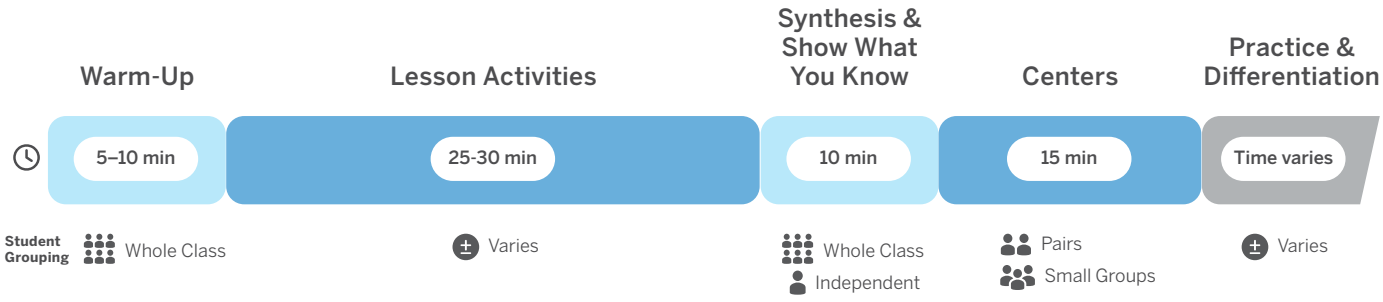
*A brief, but powerful, mCLASS Beginning-of-Year Screener is provided when mCLASS Benchmark is not included.

Unit



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

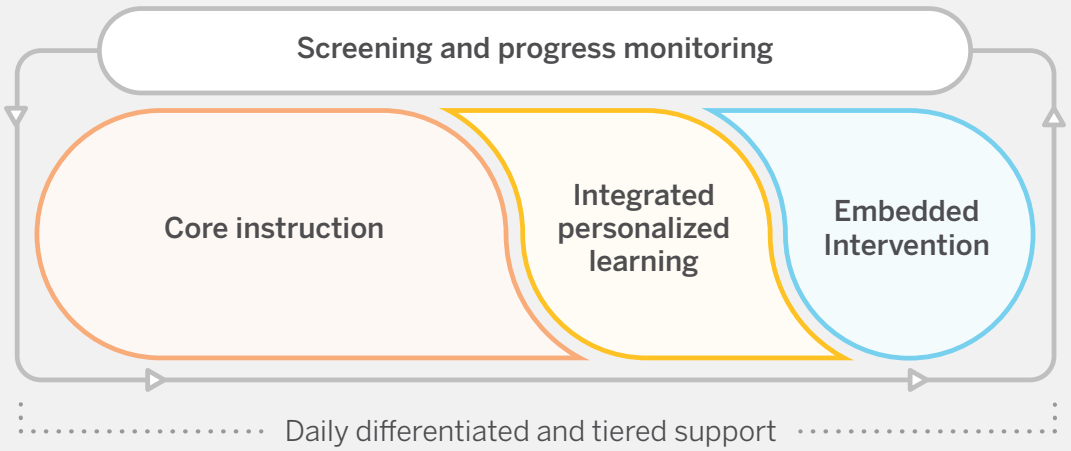
Lesson



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

Support math classrooms with one integrated, data-driven solution.

In Amplify Desmos Math, data informs instruction within integrated resources. Cohesive differentiation and intervention resources support and challenge students toward a deeper understanding of the learning goals, ensuring all students can keep up with or stretch beyond grade-level math.



Screening and progress monitoring

mCLASS® Assessments, along with daily formative checks, measure what students know and how they think. The asset-based assessment system provides teachers with targeted, actionable insights, linked to core instruction and intervention resources.

Core instruction

Amplify Desmos Math lessons provide a structured approach to problem-based learning, helping teachers create a collaborative math community with students at its center. Each lesson systematically builds on students' curiosity to develop lasting grade-level understandings for all students.

Integrated personalized learning

Boost Personalized Learning activities help students access grade-level math through engaging, independent digital practice. Responsive Feedback adjusts to students' work, providing item-level adaptivity to further support their learning.

Embedded intervention

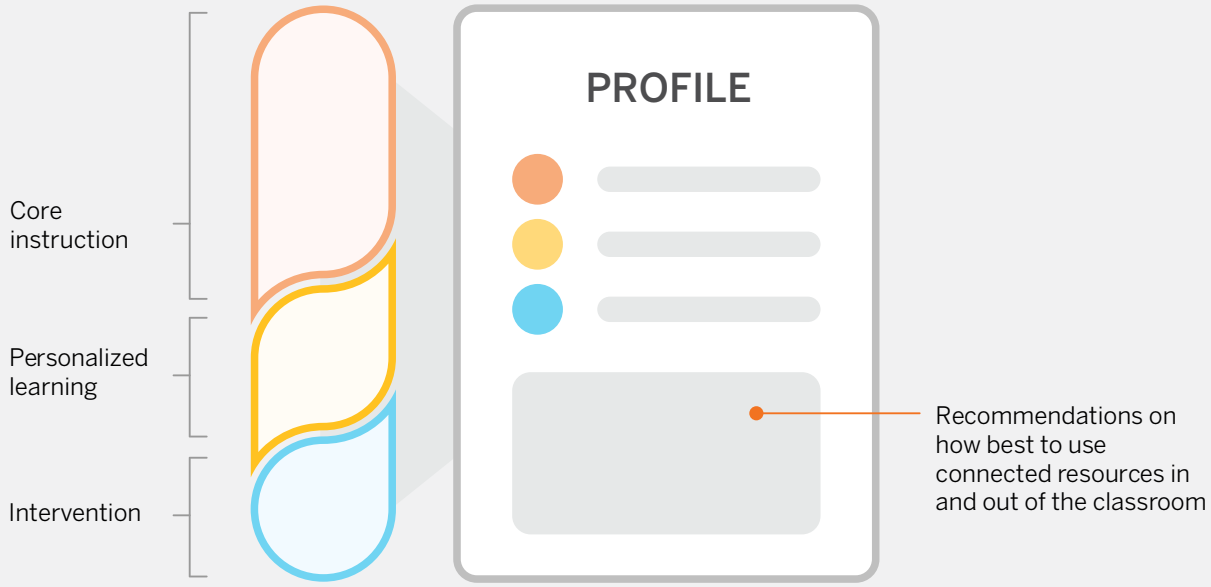
Integrated resources like Mini-Lessons, Math Fluency, Math Adventures, and Extensions provide targeted intervention on a specific concept or skill. This intervention is directly connected to daily content and offer students the individualized supports they need.

Tailored to what students think and know

Every time students demonstrate what they know, we analyze their work to create an accurate and up-to-date picture of how students think and what they know.

We've charted how mathematical thinking skills are linked, influence learning, and connect to mathematical standard mastery. Our model uses this information to tailor Personalized Learning supports to instructional areas that directly build toward grade-level concepts or skills.

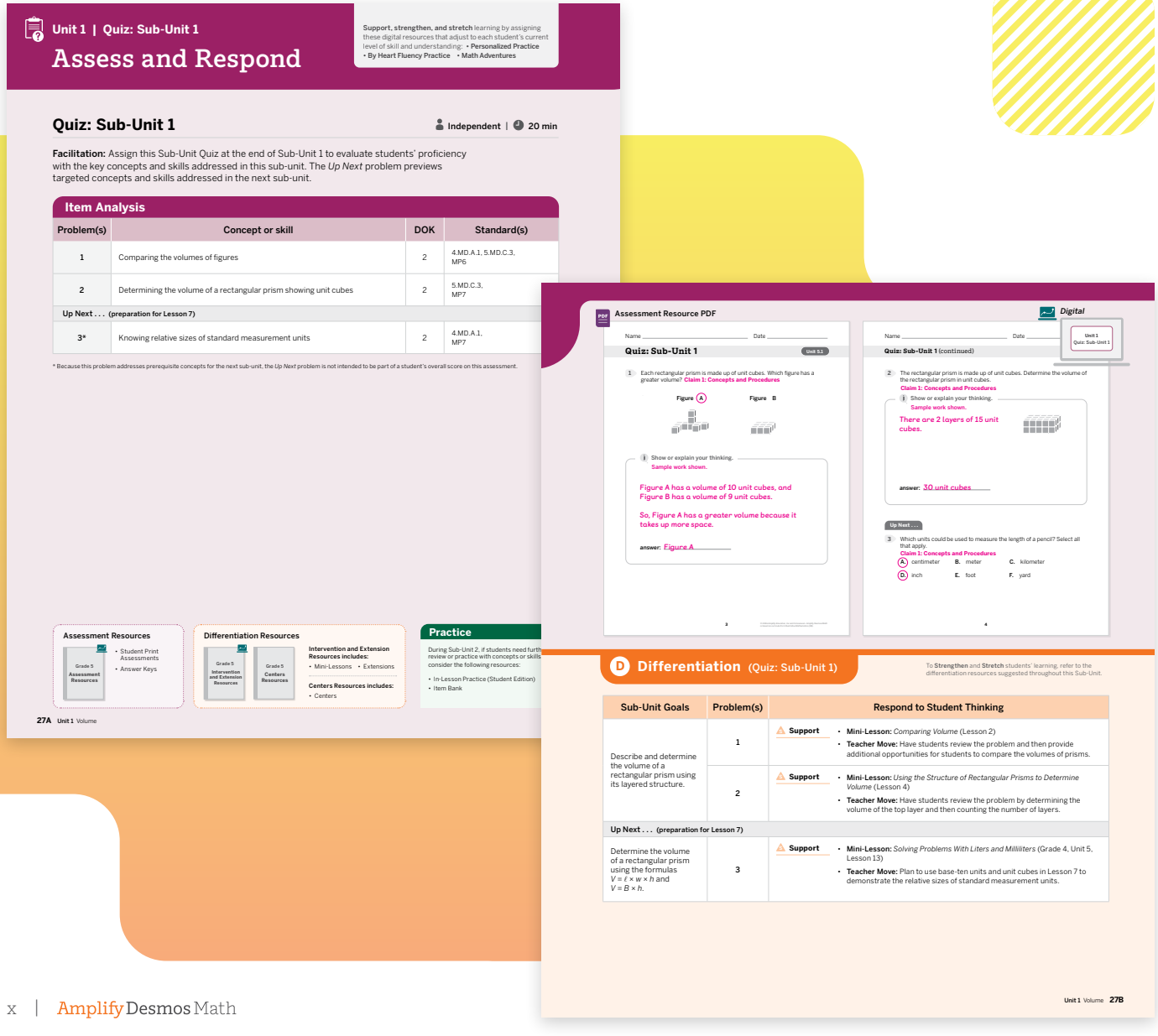
Comprehensive Student Profiles provide full data on students' assets and skills, empowering teachers to provide just-in-time scaffolds throughout core instruction and targeted intervention when needed.



Robust assessments drive learning and inform instruction.

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'll 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.



Unit 1 | Quiz: Sub-Unit 1

Assess and Respond

Support, strengthen, and stretch learning by assigning these digital resources that adjust to each student's current level of skill and understanding: • **Personalized Practice** • **By Heart Fluency Practice** • **Math Adventures**

Quiz: Sub-Unit 1

Independent | 20 min

Facilitation: Assign this Sub-Unit Quiz at the end of Sub-Unit 1 to evaluate students' proficiency with the key concepts and skills addressed in this sub-unit. The *Up Next* problem previews targeted concepts and skills addressed in the next sub-unit.

Item Analysis

Problem(s)	Concept or skill	DOK	Standard(s)
1	Comparing the volumes of figures	2	4.MD.A.1, 5.MD.C.3, MP6
2	Determining the volume of a rectangular prism showing unit cubes	2	5.MD.C.3, MP7
Up Next . . . (preparation for Lesson 7)			
3*	Knowing relative sizes of standard measurement units	2	4.MD.A.1, MP7

* Because this problem addresses prerequisite concepts for the next sub-unit, the *Up Next* problem is not intended to be part of a student's overall score on this assessment.

Assessment Resources

- Student Print Assessments
- Answer Keys

Differentiation Resources

Intervention and Extension Resources includes:
- Mini-Lessons
- Extensions

Centers Resources includes:
- Centers

Practice

During Sub-Unit 2, if students need further review or practice with concepts or skills, consider the following resources:

- In-Lesson Practice (Student Edition)
- Item Bank

27A Unit 1 Volume

Assessment Resource PDF

Digital

Name _____ Date _____

Quiz: Sub-Unit 1 Unit 1.1

1 Each rectangular prism is made up of unit cubes. Which figure has a greater volume? Claim 1: Concepts and Procedures

Figure A Figure B

Show or explain your thinking. Sample work shown.

Figure A has a volume of 10 unit cubes, and Figure B has a volume of 9 unit cubes.

So, Figure A has a greater volume because it takes up more space.

answer: Figure A

3

Quiz: Sub-Unit 1 (continued)

2 The rectangular prism is made up of unit cubes. Determine the volume of the rectangular prism in unit cubes.
Claim 1: Concepts and Procedures

Show or explain your thinking. Sample work shown.

There are 2 layers of 15 unit cubes.

answer: 30 unit cubes

Up Next . . .

3 Which units could be used to measure the length of a pencil? Select all that apply.
Claim 1: Concepts and Procedures

A. centimeter B. meter C. kilometer
D. inch E. foot F. yard

4

D Differentiation (Quiz: Sub-Unit 1)

To **Strengthen** and **Stretch** students' learning, refer to the differentiation resources suggested throughout this Sub-Unit.

Sub-Unit Goals	Problem(s)	Respond to Student Thinking
Describe and determine the volume of a rectangular prism using its layered structure.	1	Support • **Mini-Lesson:** *Comparing Volume* (Lesson 2) • **Teacher Move:** Have students review the problem and then provide additional opportunities for students to compare the volumes of prisms.
	2	Support • **Mini-Lesson:** *Using the Structure of Rectangular Prisms to Determine Volume* (Lesson 4) • **Teacher Move:** Have students review the problem by determining the volume of the top layer and then counting the number of layers.
Up Next . . . (preparation for Lesson 7)		
Determine the volume of a rectangular prism using the formulas $V = \ell \times w \times h$ and $V = B \times h$.	3	Support • **Mini-Lesson:** *Solving Problems With Liters and Milliliters* (Grade 4, Unit 5, Lesson 13) • **Teacher Move:** Plan to use base-ten units and unit cubes in Lesson 7 to demonstrate the relative sizes of standard measurement units.

Unit 1 Volume 27B

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 (grades 2–A1)

Each unit begins with an assessment designed to identify the student skills that will be particularly relevant to the upcoming unit. This check is agnostic to the standards covered in the following unit and serves not as a deficit-based acknowledgment of what students do not know, but rather as an affirmation of the knowledge and skills with which students come in.

End-of-Unit Assessment

Students engage with rigorous grade-level mathematics through a variety of formats and tasks in the End-of-Unit Assessment. A combination of autoscored and rubric-scored items provide deep insights into student thinking. All Amplify Desmos Math End-of-Unit Assessments include two forms.

Sub-Unit Quizzes (grades 1–A1)

With regular Sub-Unit Quizzes, student understanding never comes as an end-of-unit surprise. In these checks, students are assessed on a subset of conceptual understandings from the unit, with rubrics that help illuminate students' current understanding and provide guidance for responding to student thinking.

Sub-Unit Checklists (grades K–1)

These checklists enable teachers to observe key skills and concepts that cannot be assessed on a pencil-and-paper assessment. The checklists outline the supports students need to get where they need to go.

Lesson-level assessments

Amplify Desmos Math lessons are centered around sense-making and in-the-moment feedback. Daily moments of assessment provide valuable evidence of learning for both the teacher and student.

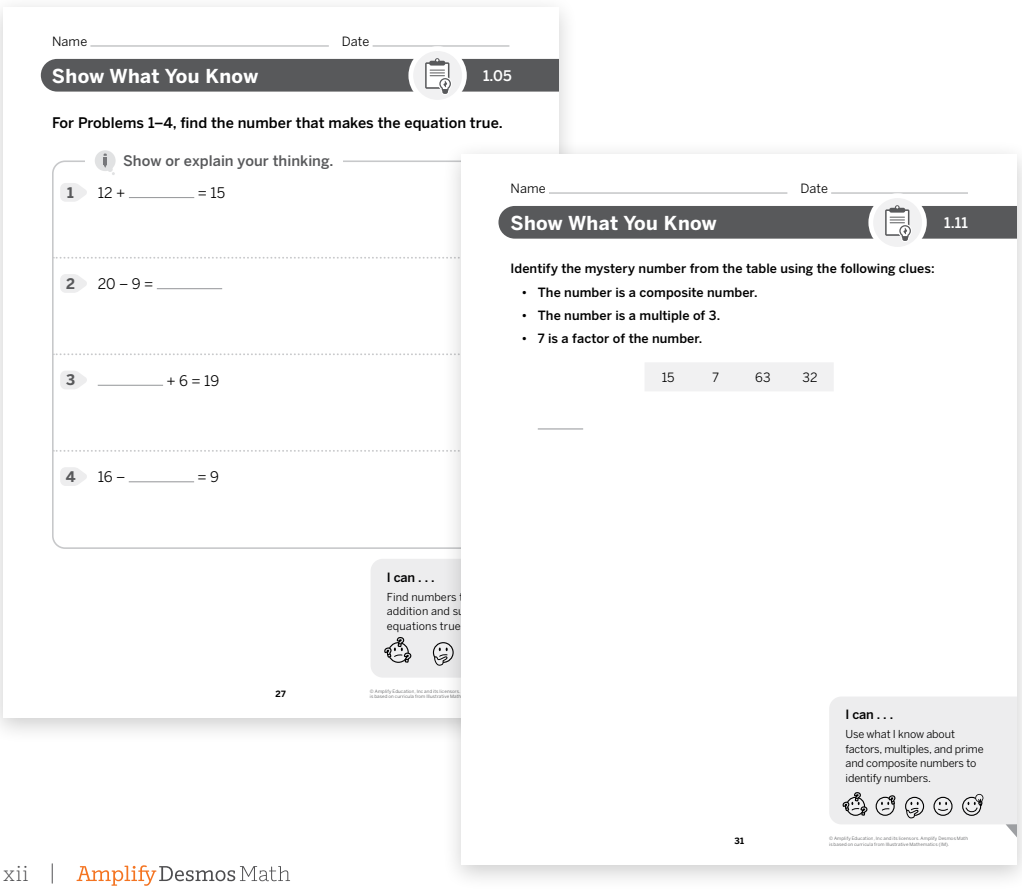
Responsive Feedback

We harness the power of digital math and graphing tools to show students the meaning of their thinking in context. Teachers have the ability to see and provide in-the-moment feedback as students progress through a lesson. Responsive Feedback motivates students and engages them in the learning process.

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 carefully designed to minimize the time students take to complete while maximizing the insight the teacher receives on a daily basis to attend to student needs during the following class. *Show What You Know is optional in grades K–1.*

Beginning in grade 2, all unit-level and lesson-level assessments can be completed digitally.


Name _____ Date _____

Show What You Know 1.05

For Problems 1–4, find the number that makes the equation true.

Show or explain your thinking.

1. 12 + _____ = 15
2. 20 − 9 = _____
3. _____ + 6 = 19
4. 16 − _____ = 9

I can . . .

Find numbers t… addition and su… equations true.

27

Name _____ Date _____

Show What You Know 1.11

Identify the mystery number from the table using the following clues:

- **The number is a composite number.**
- **The number is a multiple of 3.**
- **7 is a factor of the number.**

15	7	63	32

_____

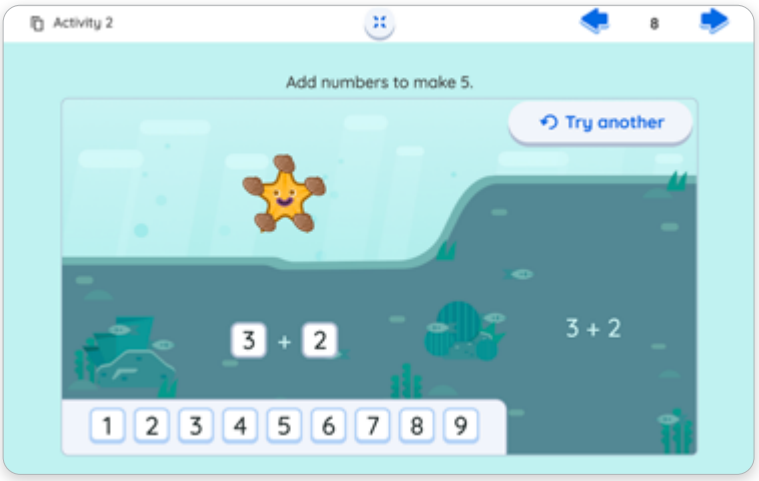
I can . . .

Use what I know about factors, multiples, and prime and composite numbers to identify numbers.

31

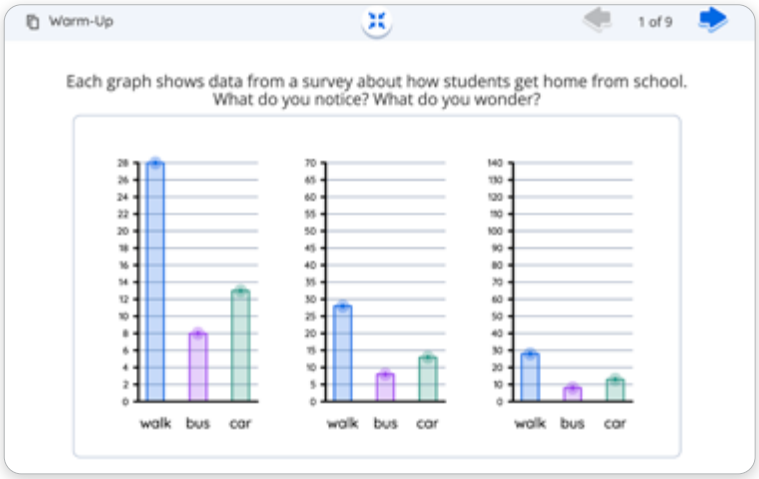
Show What You Know example pages for grades 2 and 4.

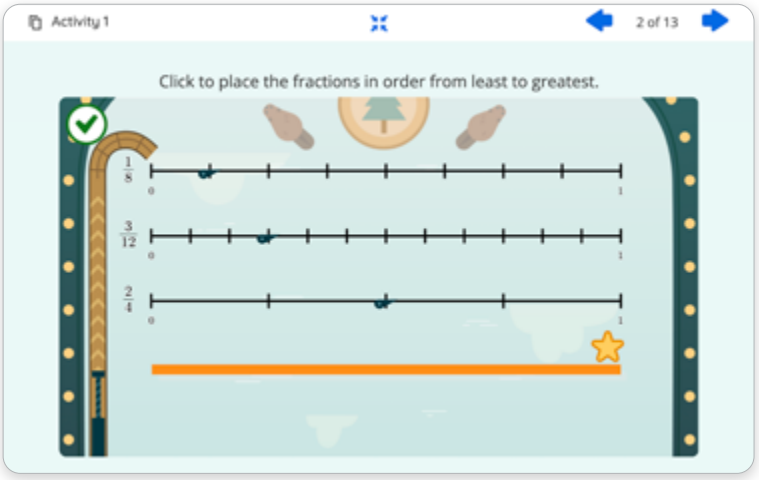
- **Celebrate student thinking with Responsive Feedback.** We harness the power of digital math and graphing tools to show students the meaning of their thinking in context. Responsive Feedback motivates students and engages them in the learning process.



In the Kindergarten lesson Harry Explores the Ocean, students receive immediate feedback on whether their addition equation equals five through an animation of a starfish collecting seashells.

In the grade 3 lesson: 2, 5, or 10?, teachers use interactive bar graphs on a Presentation Screen to help students consider how the same data is represented on graphs with three different scales—2, 5, and 10.





In the grade 4 lesson Getting in Order, students compare and order sets of fractions from least to greatest to control the locations of flippers in a pinball game. When the fractions are in order, a ball will fall through all of the flippers and roll to the star.

Benchmark and progress monitoring assessments identify students' skills and knowledge.

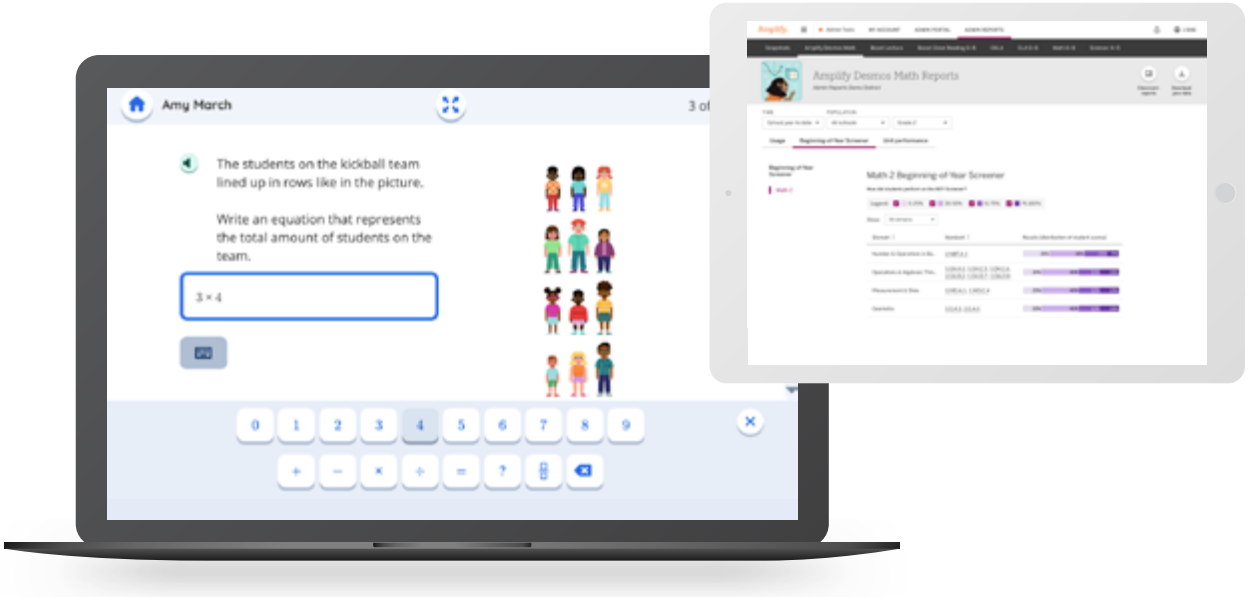
Assessments from mCLASS® surface students' math thinking with an asset-based approach, providing better insights into what students know, where they need support, and which assets to leverage.

mCLASS Benchmark

This powerful digital benchmark assessment system is administered to the whole class three times a year, at the beginning, middle, and end of the year. The assessments are designed to analyze student responses with a focus on revealing underlying math thinking, evaluating student knowledge of grade-level math, and informing instructional decisions.

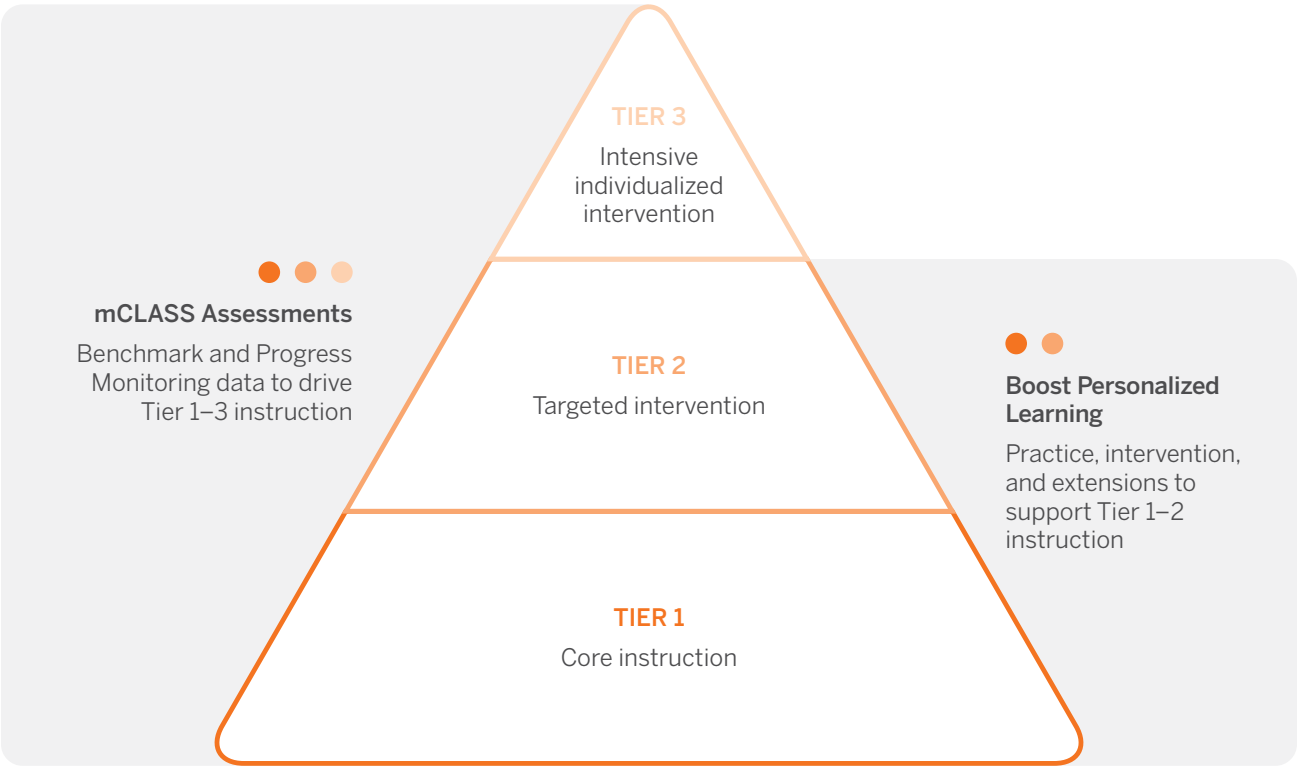
The comprehensive system of assessments also:

- Evaluates student progress toward grade-level expectations for growth measure.
- Identifies specific areas of strength and developmental need for each student to inform differentiation in Amplify Desmos Math and Boost Personalized Learning.
- Benchmark also includes an adaptive diagnostic module that can be optionally administered to collect additional information for Tier 1 and Tier 2 intervention targeting.



mCLASS Progress Monitoring

Progress Monitoring helps teachers chart students' progression between assessment periods. For students receiving targeted support, progress monitoring informs whether intervention is working or whether adjustments are needed to improve student learning.



As an essential part of a school's MTSS or Response to Intervention (RTI) framework, these assessments can be used to track student progress in specific areas as part of targeted instructional support towards benchmark goals.

Progress Monitoring is designed to be brief and easily administered every two weeks, although teachers are encouraged to use these in ways that best meet their instructional needs and goals for the student.

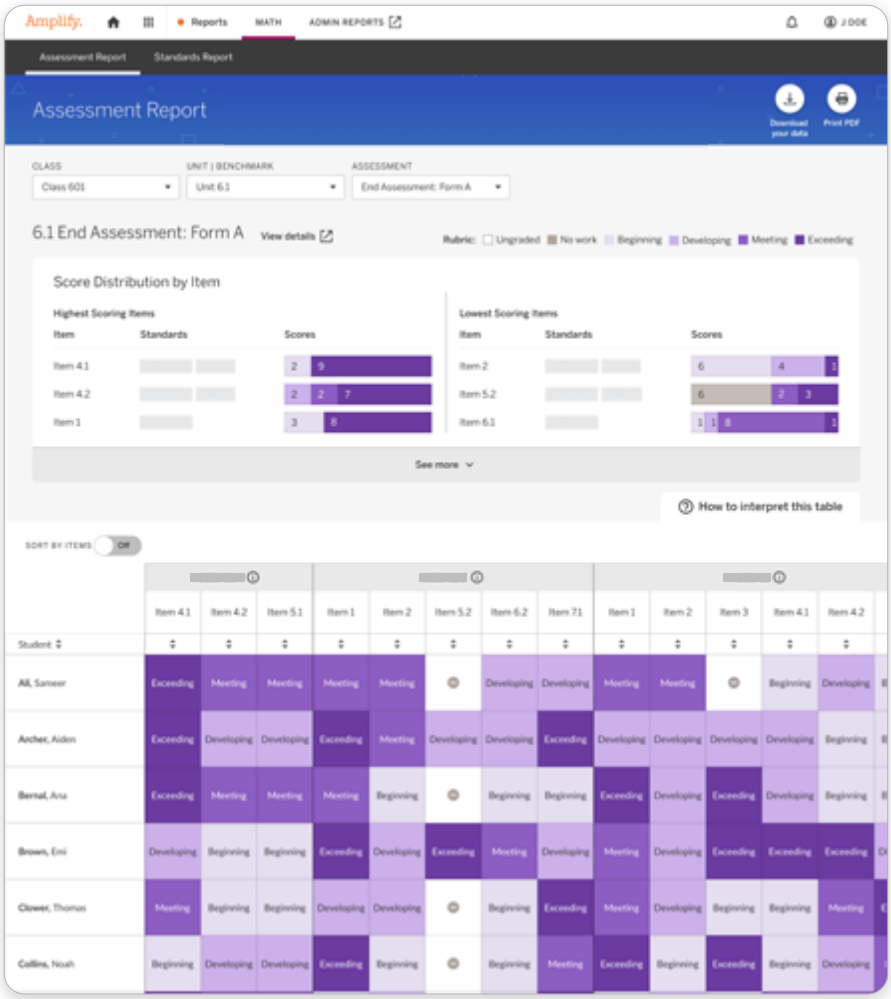
Reporting tools provide integrated insight into learning.

Amplify Desmos Math provides teachers and administrators with unified reporting and insights so that educators have visibility into what students know about grade-level math—and can plan instruction accordingly for the whole class, small groups, and individual students.

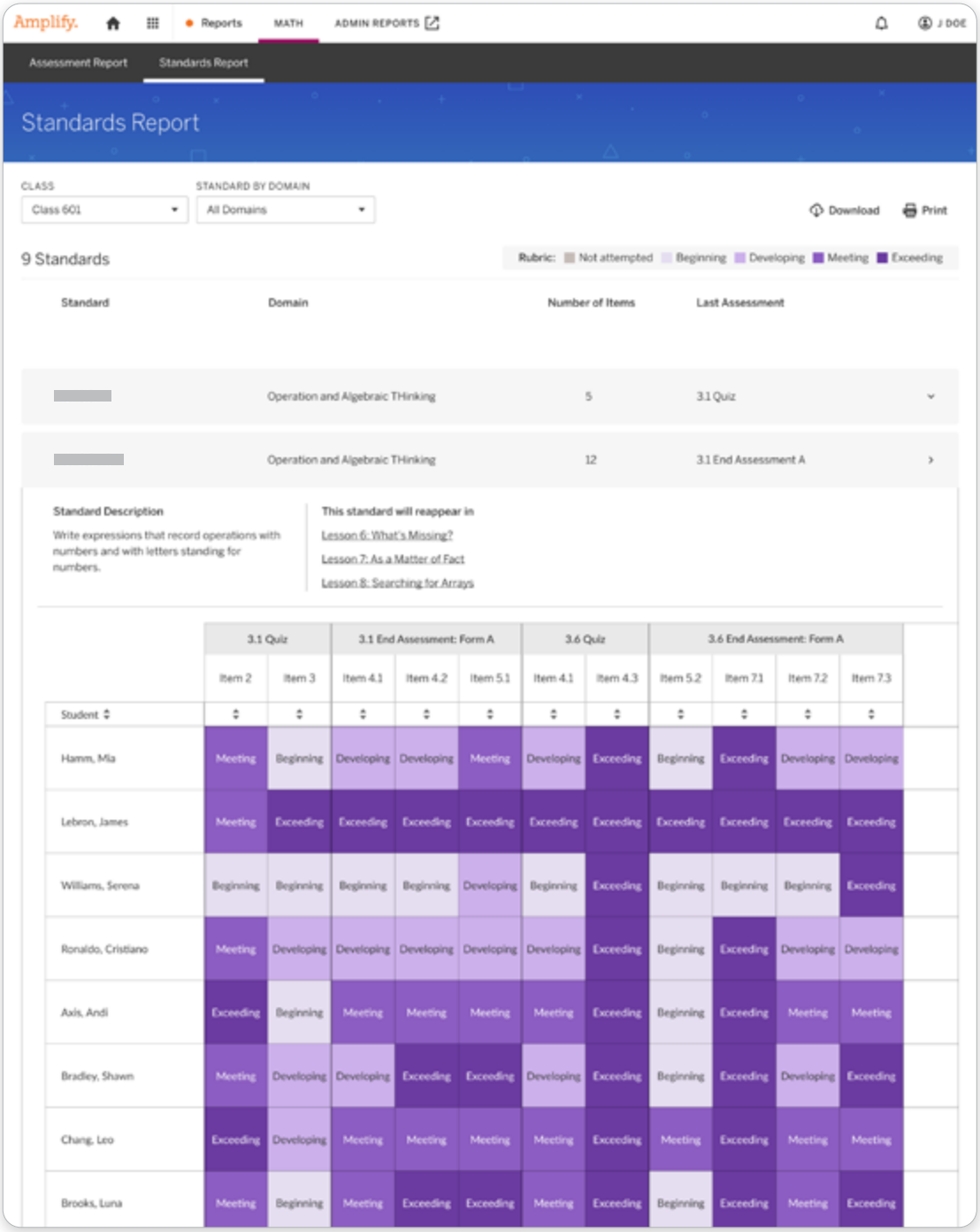
Reporting functionality integrates unit assessments, lesson assessments, personalized learning, benchmark assessments, and progress monitoring for a comprehensive look at student learning.

Amplify Desmos Math is designed to fit your specific data and reporting needs. Reporting functionality integrates unit assessments and lesson assessments for a comprehensive look at student learning.

At-a-glance views of unit-level assessment results inform instructional planning, and you can also drill down to item-level analysis



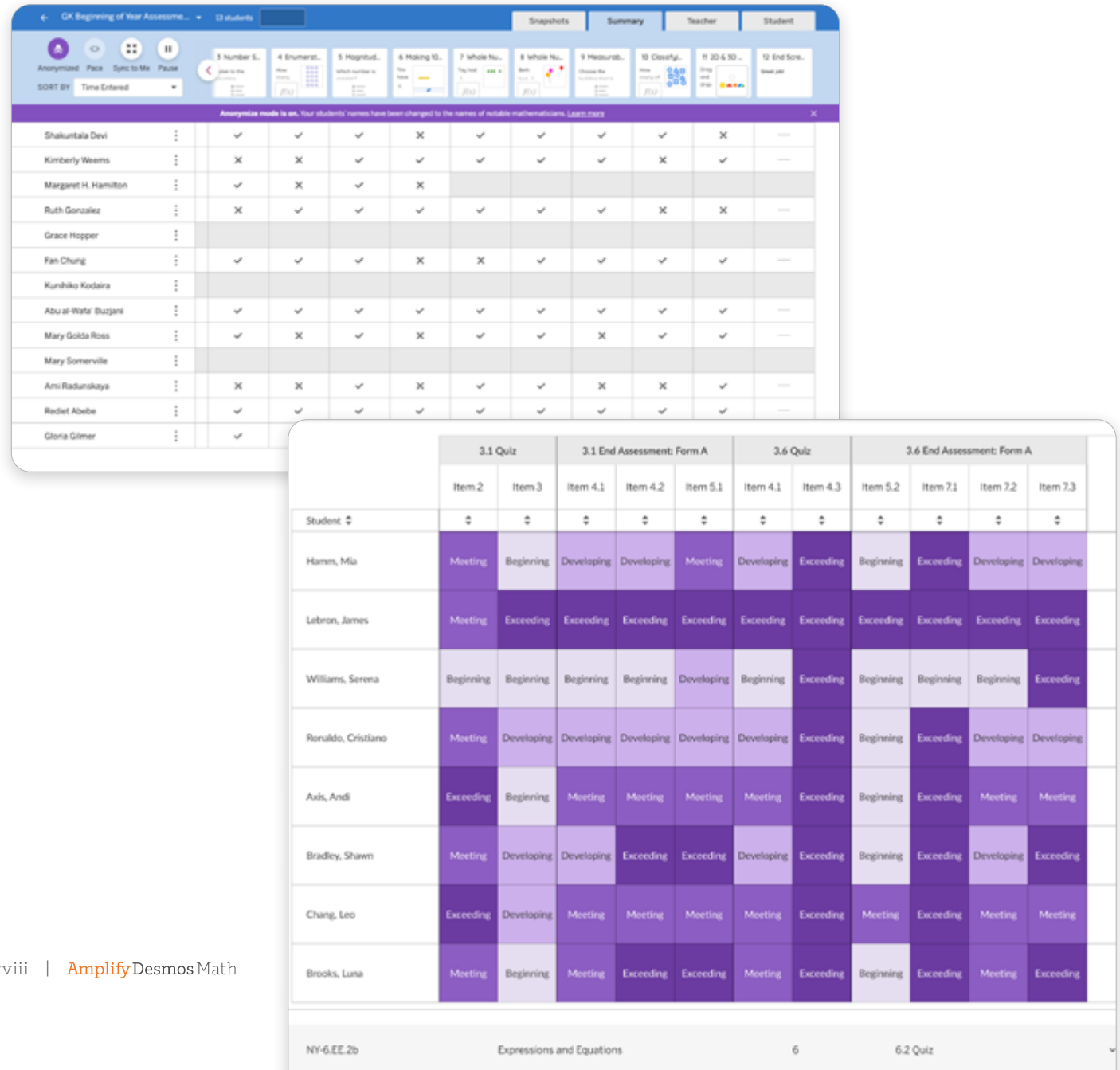
Our standards report allows you to monitor proficiency at the class and individual student levels.



Teachers have data at their fingertips to guide and differentiate instruction.

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

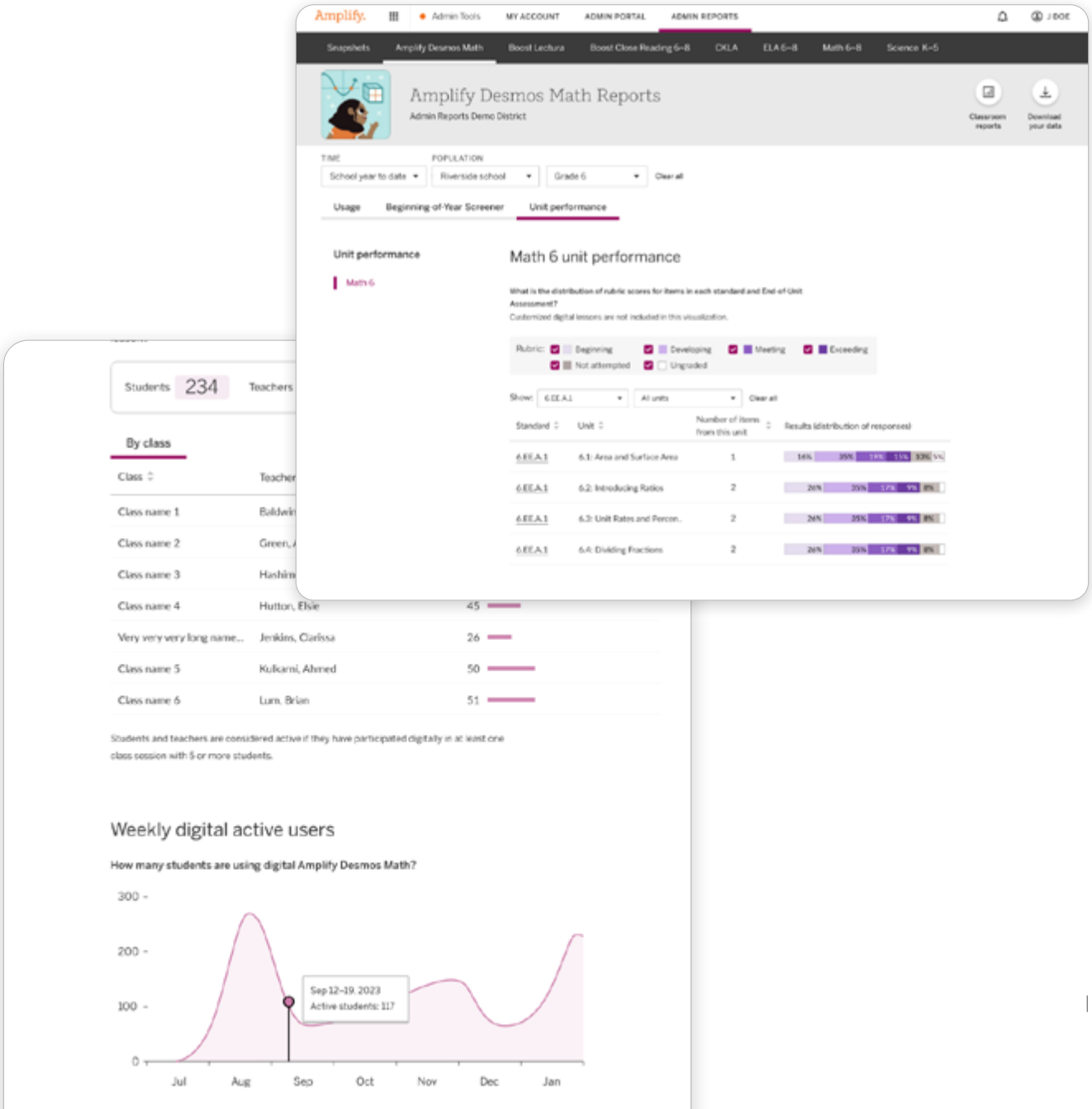
- Proficiency and growth is shown by domain, cluster, standard, and priority concepts. Areas of potential student need are highlighted to allow teachers to modify their instruction and target differentiated support.
- With actionable insights provided by mCLASS Benchmark and Progress Monitoring assessments, teachers are given the data they need to inform Tier 2 and Tier 3 intervention.
- Caregiver-friendly visuals and language enable educators to easily share and celebrate growth with families.



Administrator Reporting

Amplify Desmos Math provides a complete picture of student, class, and district performance, allowing administrators to implement instructional and intervention plans.

- Track student, class, and district performance with usage, completion, and assessment data.
- Accurately group students and classes with the Benchmark and Progress Monitoring data of mCLASS Math and allow teachers to reliably implement and track the progress of Tier 2 and Tier 3 intervention.
- Provide one data-driven solution that educators can rely on for high-quality math instruction.



Boost Personalized Learning

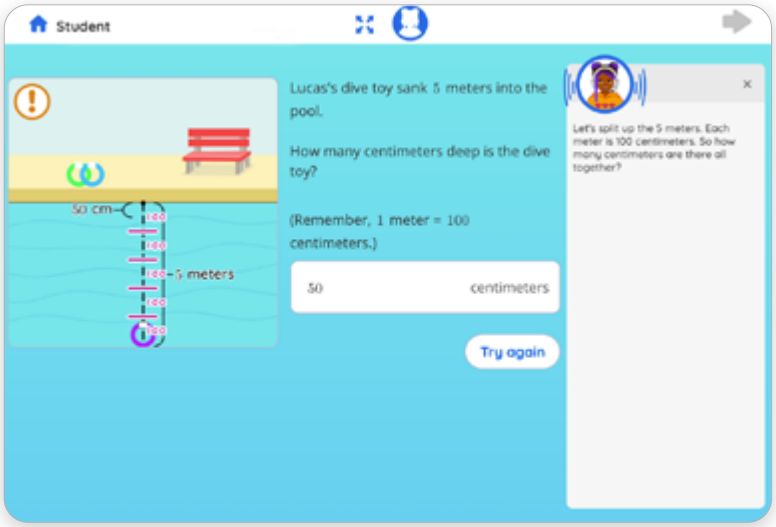
Amplify Desmos Math includes digital, adaptive practice that provides the personalized support a student needs to access grade-level math every day. Boost Personalized Learning activities target a skill or concept aligned to the day's core lesson, with each student receiving personalized scaffolds based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

This adaptive technology complements daily learning and provides another layer of support to the in-lesson differentiation and instructional guidance provided to teachers.

Personalized feedback, scaffolds, and supports

Activities adapt to each student's unique needs based on prior assessment data and student responses. Tailored, differentiated support includes:

- **Responsive Feedback**: Visual, mathematical representation of the student's response
- **Guidance and tips**: Adaptive suggestions to help get students unstuck
- **Strategy modeling**: Moments of explicit instruction to summarize key concepts and support sensemaking
- **Precursor skill support**: Instruction and practice on skills and concepts that highly influence the development of grade-level understanding



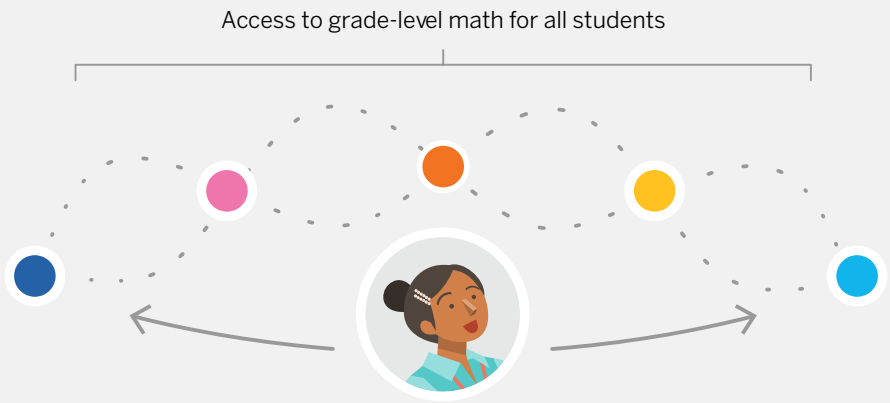
TRY IT!

Go to **amplify.com/admsample** to access sample activities

All students can access grade-level math, every day.

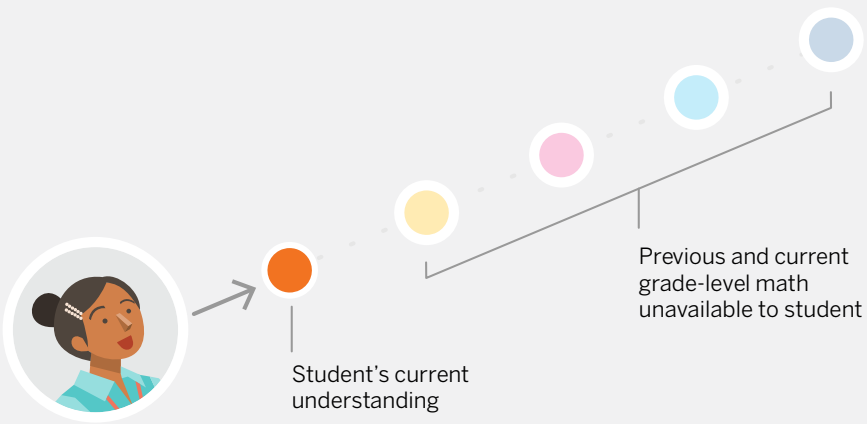
Boost Personalized Learning enables all students to access grade-level math in each activity with tailored supports based on what they already know. This eliminates the long path where students receive interventions that slowly build understanding unrelated to daily instruction.

The asset-based approach of Boost Personalized Learning



Daily personalized differentiation and support enable all students to develop grade-level understanding within every activity.

The traditional, deficit-based approach to intervention



Long, personalized learning paths only focus on prior skills by practicing content disconnected from daily instruction.

More opportunities for personalized practice

Math Adventures

Math Adventures are strategy-based digital math games that offer students a fun, engaging and low-stakes way of practicing math skills. Unlike simple, repetitive math games, students navigate through various levels of complex worlds with Responsive Feedback along the way.

Math Adventures are perfect for times when teachers need students to be independent after finishing classwork, an assessment, or group work.

Twelve a Dozen

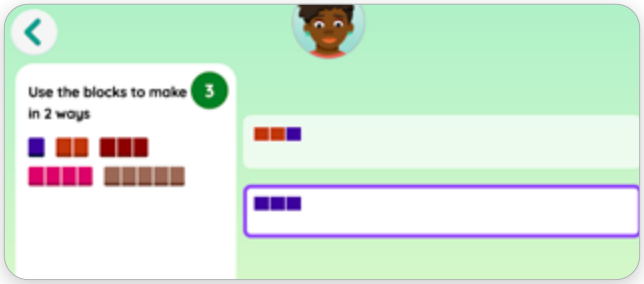
A story-rich puzzle platform game that integrates algebraic math into core game mechanics. Players must use their factoring skills and solve order-of-operations puzzles to save the world.

Formula Won

A racing game in which players advance around different game board race tracks, competing against an AI opponent by picking sets of cards and operations. Requires players to operate with integers, mixed numbers, or decimals.

Number Jumper

Take an adventure across different lands. Students practice addition and subtraction facts by jumping from platform to platform as they travel through swamps, caves, forests, pillow forts, and many more settings.



Connect the Blocks

Students use blocks to compose different combinations of target numbers. Students see equations that match their builds and receive feedback in the form of a length bar. Students develop their fluency through repeated opportunities to flexibly build and recognize different parts of a whole.

Fluency Practice

Fact fluency frees up brainpower and working memory for students to do more complex mathematical work. When basic facts and procedures are second nature, it's easier to figure out how to structure a multi-step word problem, model a solution, or puzzle out systems of equations.

We've partnered with Math for Love to iterate on the popular Multiplication by Heart for the other basic operations, such as Addition and Subtraction by Heart, Division by Heart, and fluency of other math procedures.

The Fluency Practice of Amplify Desmos Math uses an evidence-based approach to memory retention—spaced repetition—for the basic facts. The focus is conceptual understanding, not just "drill and kill" focused on rote memorization. The adaptive nature of the practice allows students to focus less and less on the facts they already know. This approach builds fluency without the anxiety that timed tests can cause.

TRY IT!

Go to **fluency.amplify.com** to access sample activities

About Mini-Lessons

Intervention Mini-Lessons aligned to core instruction

Amplify Desmos Math Mini-Lessons are 15-minute lessons aligned to the most critical topics throughout a unit. Teacher-led Mini-Lessons are used to provide targeted intervention to small groups of students who need additional support or to re-engage students with content that they may need more time on.

Amplify Desmos Math Mini-Lessons are the perfect complement to our problem-based approach, because they provide more explicit instruction opportunities and leverage a consistent instructional routine (Modeled Review, Guided Practice, Check for Understanding).

A minds-on experience to support your students' curiosity and thinking beyond the core lesson

Rather than serving as simple solo drills or worksheets, Mini-Lessons tie directly into critical topics to keep students thinking and exploring the grade-level math they need more time with.

Differentiation where and when it matters most, to help all students access grade-level math

Mini-Lessons are used to address critical prerequisite skills for upcoming lessons or to engage students in grade-level math immediately after a core lesson, when they need more time to think about a concept or skill. Mini-Lessons reinforce the same topics and content students see in core instruction.

Faded worked examples build proficiency

The design of Amplify Desmos Math Mini-Lessons is informed by the extensive research around worked examples, in particular faded worked examples. Because novice learners benefit more from worked examples than more experienced learners (Kalyuga, Ayres, Chandler, & Sweller, 2003), one pedagogical approach involves scaffolding, or fading away, the support given in the worked examples as practice goes on and students become more proficient (Atkinson et al., 2003; van Merrienboer, Kirschner, & Kester, 2003).

In essence, the worked examples get less "worked out" over time. Studies on the use of faded worked examples have found benefits for problem solving, both in terms of better performance on difficult problems (Atkinson et al., 2003) and less time taken to achieve the same level of performance (Flores & Inan, 2014). Students working with faded worked examples have also been shown to have fewer unproductive moments during their practice sessions (Renkl et al., 2004).

Structure of a Mini-Lesson

Structure of a Mini-Lesson

Easy as one, two, three:

1 **Modeled review**

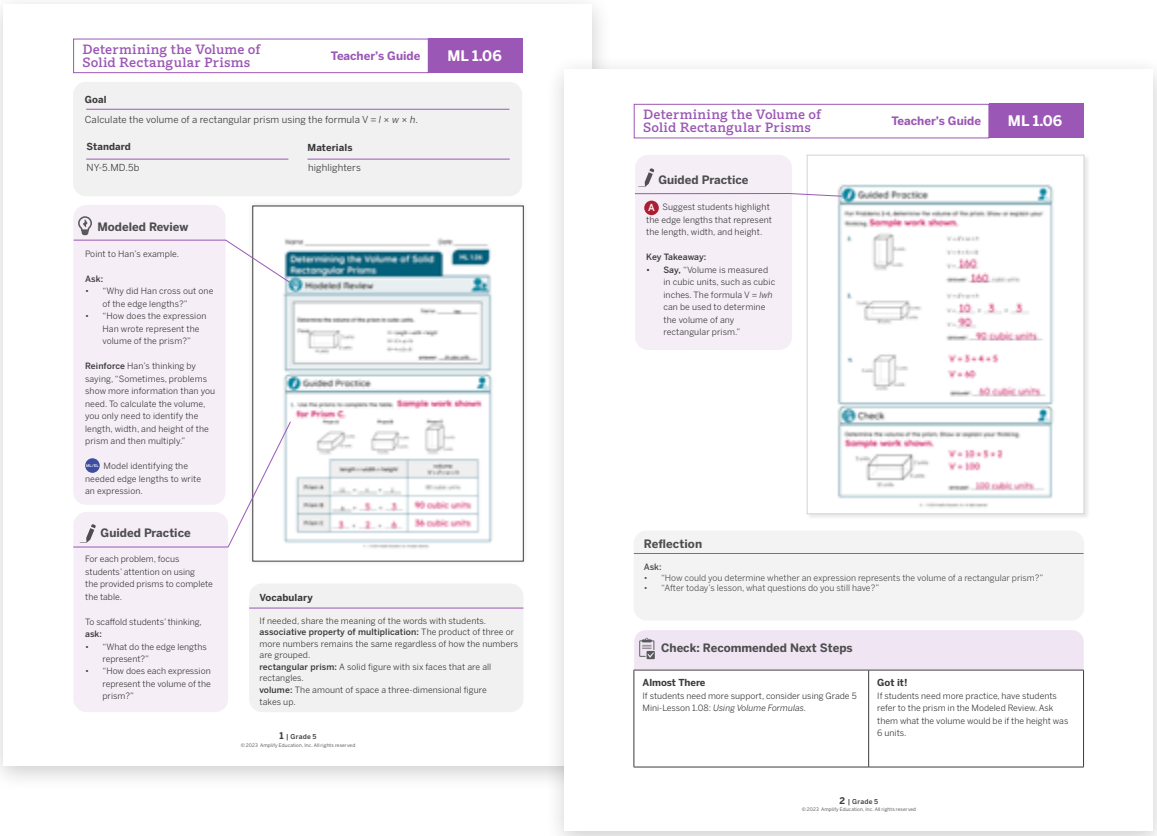
Teachers work through an example with students.

2 **Guided practice**

Teachers guide students through faded examples, where scaffolds are heavier early on and are gradually removed.

3 **Check for understanding**

Teachers provide students an opportunity to show what they have learned.



Determining the Volume of Solid Rectangular Prisms — Teacher's Guide — ML 1.06

Goal

Calculate the volume of a rectangular prism using the formula $V = l \times w \times h$.

Standard

NY-5.MD.5b

Materials

highlighters

Modeled Review

Point to Han's example.

Ask:

- "Why did Han cross out one of the edge lengths?"
- "How does the expression Han wrote represent the volume of the prism?"

Reinforce Han's thinking by saying, "Sometimes, problems show more information than you need. To calculate the volume, you only need to identify the length, width, and height of the prism and then multiply."

Model identifying the needed edge lengths to write an expression.

Guided Practice

For each problem, focus students' attention on using the provided prisms to complete the table.

To scaffold students' thinking, **ask:**

- "What do the edge lengths represent?"
- "How does each expression represent the volume of the prism?"

Vocabulary

If needed, share the meaning of the words with students.
associative property of multiplication: The product of three or more numbers remains the same regardless of how the numbers are grouped.
rectangular prism: A solid figure with six faces that are all rectangles.
volume: The amount of space a three-dimensional figure takes up.

1 | Grade 5

Determining the Volume of Solid Rectangular Prisms — Teacher's Guide — ML 1.06

Guided Practice

Suggest students highlight the edge lengths that represent the length, width, and height.

Key Takeaway:

- **Say,** "Volume is measured in cubic units, such as cubic inches. The formula $V = lwh$ can be used to determine the volume of any rectangular prism."

Reflection

Ask:

- "How could you determine whether an expression represents the volume of a rectangular prism?"
- "After today's lesson, what questions do you still have?"

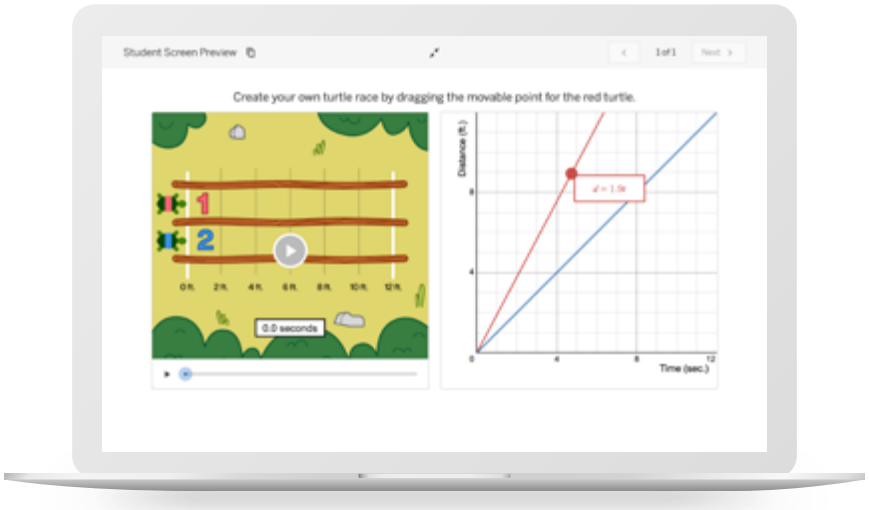
Check: Recommended Next Steps

Almost There	Got it!
If students need more support, consider using Grade 5 Mini-Lesson 1.08: *Using Volume Formulas*.	If students need more practice, have students refer to the prism in the Modeled Review. Ask them what the volume would be if the height was 6 units.

2 | Grade 5

Accessing Mini-Lessons in Amplify Desmos Math

Amplify Desmos Math Mini-Lessons are easily accessible at point-of-use for teachers.

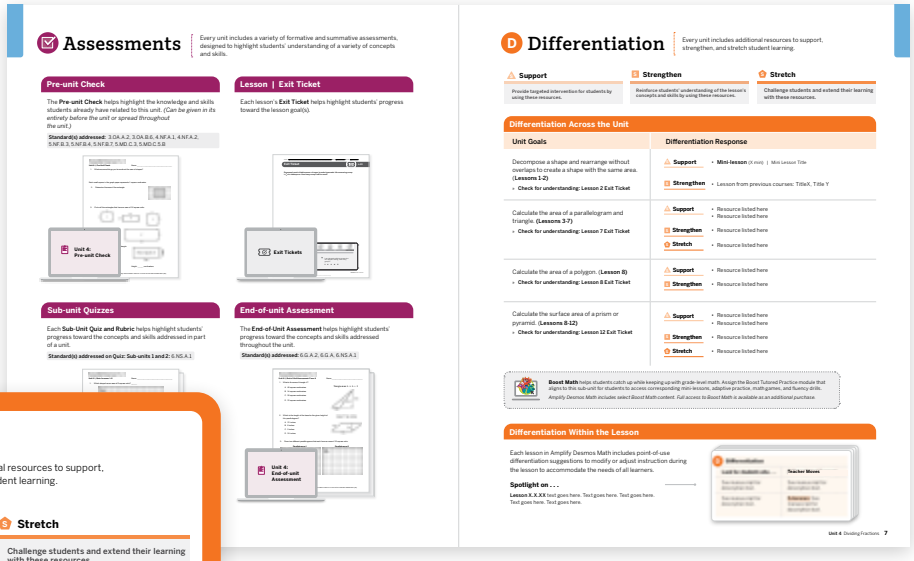


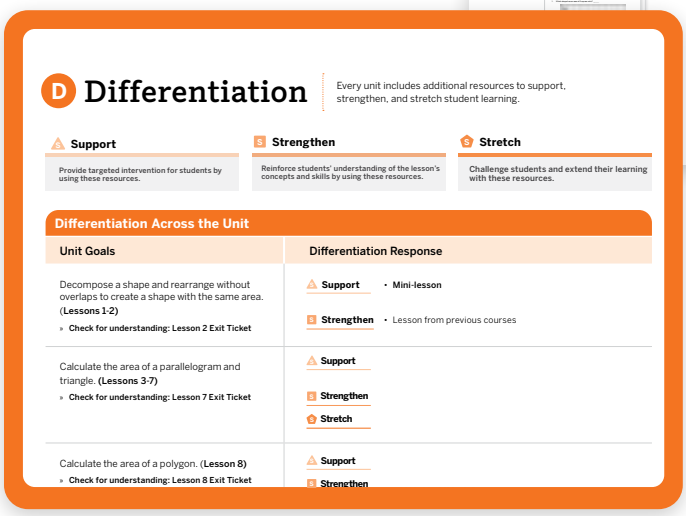
In the digital experience

Online, Teacher Edition PDF pages for each Mini-Lesson, along with the Teacher Presentation Screens, can be accessed within sub-unit resources.

In the print Teacher Edition

In the Amplify Desmos Math Teacher Edition, Mini-Lessons will be referenced in the differentiation table at the sub-unit level.





Centers

Game-based Centers strengthen student engagement and reinforce key skills and concepts

Centers are engaging, hands-on games for students to play collaboratively to strengthen their understanding of key skills and concepts.

Centers are designed so that students engage in them 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.

Daily Center Time (Grades K–1)

The last 15 minutes of the daily lesson is always Center Time. Depending on where the lesson falls in the learning trajectory, students will either:

- Be introduced together to a new Center
- Engage in Center Choice Time, choosing previously introduced Centers to revisit

Centers as Activities

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

- Students return to these Centers in future Center Choice Times
- Teachers can also engage students in Centers as a Differentiation activity

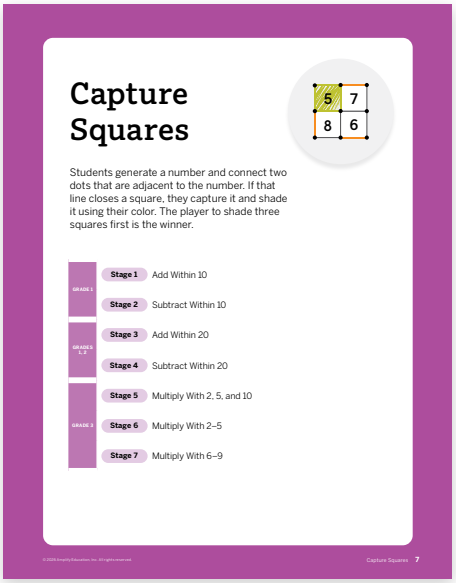
Differentiation

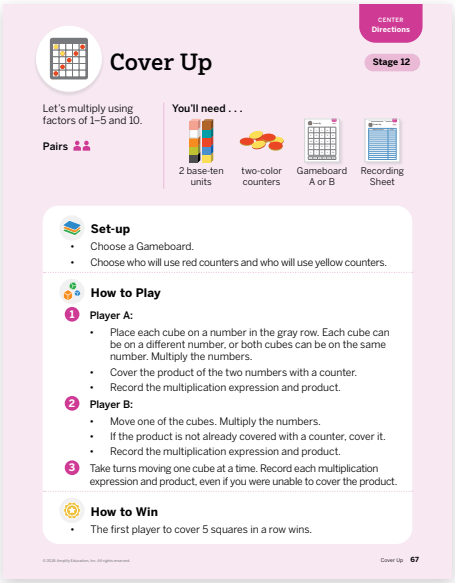
Each lesson lists specific Centers that teachers can use with small groups to strengthen their understanding of key learning goals.

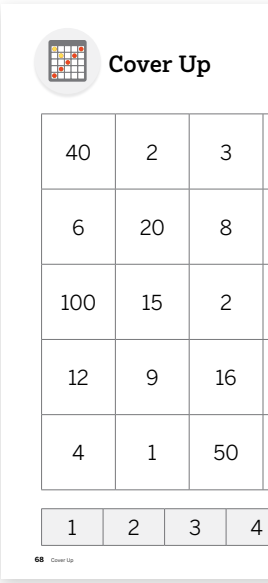
- Students usually have previously been introduced to at least an earlier stage of these Centers
- Teachers can also use Centers after Assessment points

The materials required to utilize Centers are included in program materials.

- Work mats and instruction cards are included in the Centers Resource book
- The required manipulatives are included in the Manipulative Kit







Stretch student mathematical thinking with Extensions.

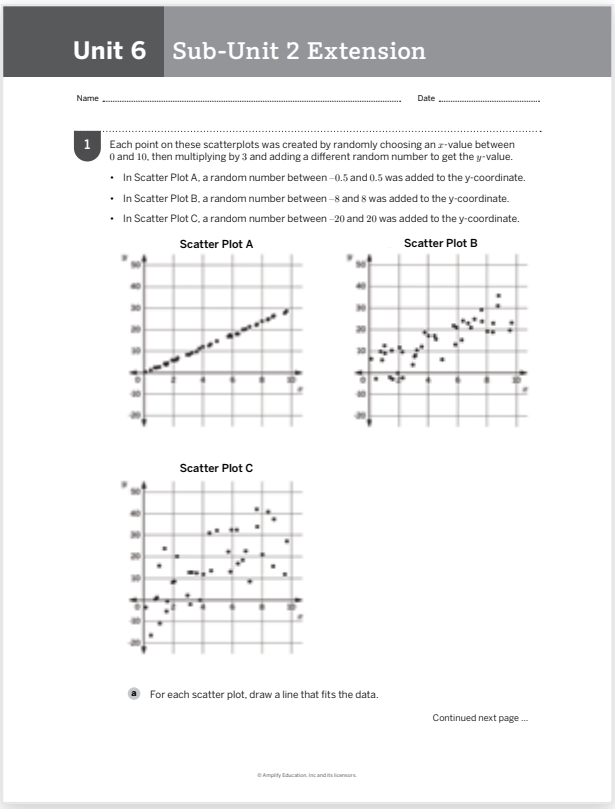
All students should have access to fun and challenging problems. Amplify Desmos Math extensions are 10–15-minute activities aligned to the most critical topics in a sub-unit. Extensions can provide targeted intervention to small groups of students ready for an extra challenge or whole-class.

Amplify Desmos Math extensions build on our student-led, problem-based approach, providing more opportunities for students to engage in creative and rigorous problems that can be approached with different strategies.

These low-lift activities give teachers flexibility and provide students with open-ended, hands-on problems they can choose from.

Challenge Extension Activities

These activities focus on student choice and provide open-ended problem-solving questions to discuss together. They are hands-on and require only a pencil and paper.



Unit 6 Sub-Unit 2 Extension

Name ..... Date .....

1 Each point on these scatterplots was created by randomly choosing an x-value between 0 and 10, then multiplying by 3 and adding a different random number to get the y-value.

- In Scatter Plot A, a random number between -0.5 and 0.5 was added to the y-coordinate.
- In Scatter Plot B, a random number between -8 and 8 was added to the y-coordinate.
- In Scatter Plot C, a random number between -20 and 20 was added to the y-coordinate.

Scatter Plot A

Scatter Plot B

Scatter Plot C

a. For each scatter plot, draw a line that fits the data.

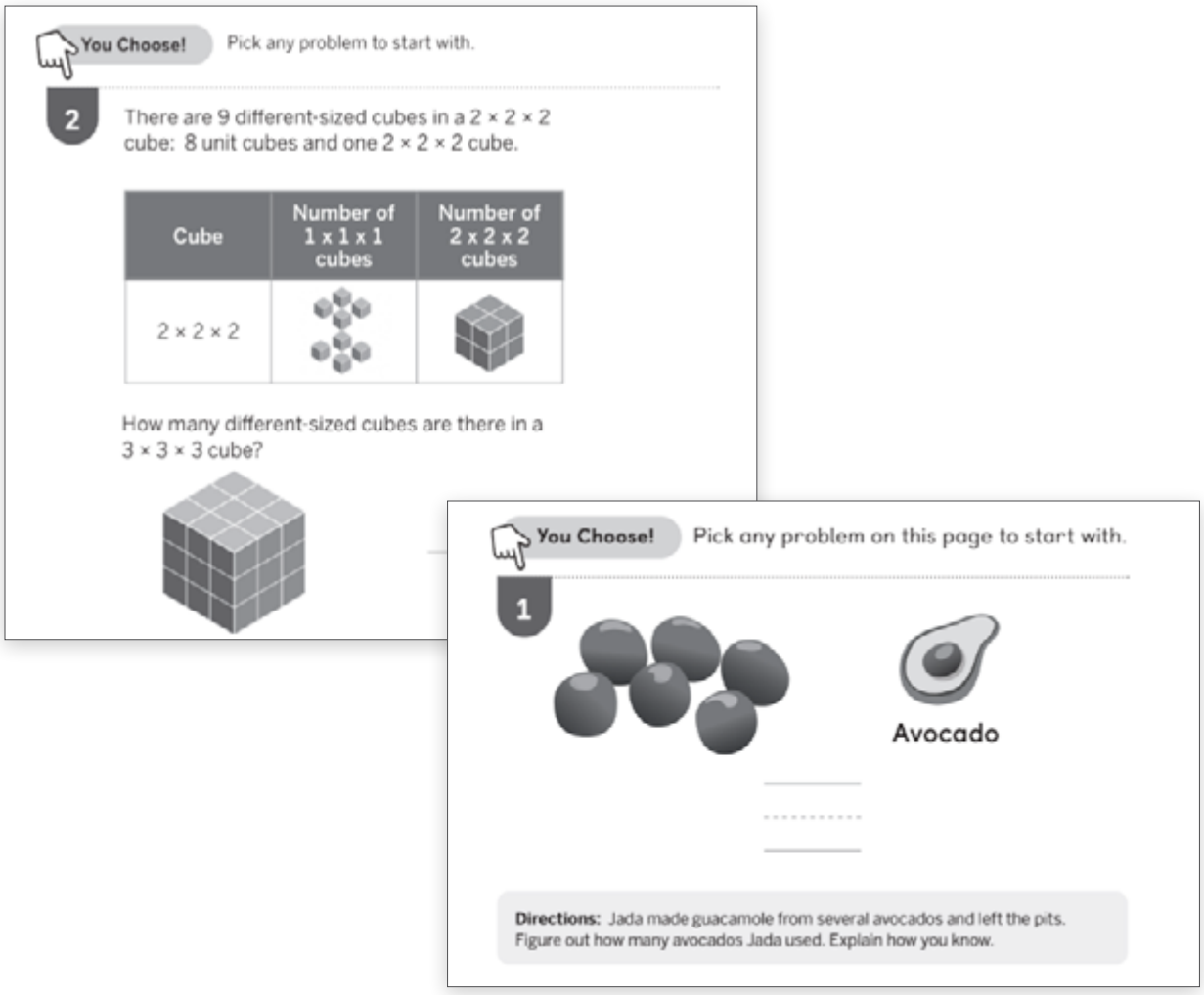
Continued next page ...

Extensions are structured on the principle of student choice and designed to be student-led. Every sub-unit comes with an Extension problem set.

Extension Activities will be referenced in the differentiation table at the lesson-level. You will also find the sub-unit extensions recommended for each lesson digitally on the differentiation tab.

Teachers are provided with:

- Key background information about the math in the problem
- Sample responses
- Hints to share with students (when needed)
- Suggestions for which problems to share with the whole class



GRADE 1

Assessments and Rubrics

The following section includes one full unit of unit-level assessments. These include the Sub-Unit Checklist, Sub-Unit Quizzes, and End-of-Unit Assessment. These assessments will also be available for students to complete digitally in Grades 2–5. Daily Show What You Know assessments are optional in grades K–1.

Name _____ Date _____

Pre-Unit Check

Unit 1.1

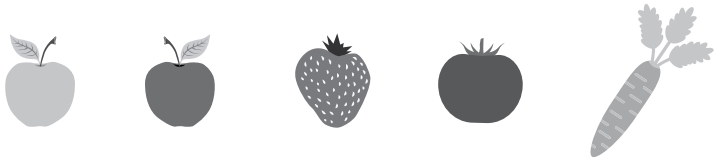
1 How many eggs are there? 14

Name _____ Date _____

Quiz: Sub-Unit 1

Unit 1.1

1 Look at the data representation that shows the different types of food eaten at a picnic.

Leaves 

No leaves 

How many are in each category?

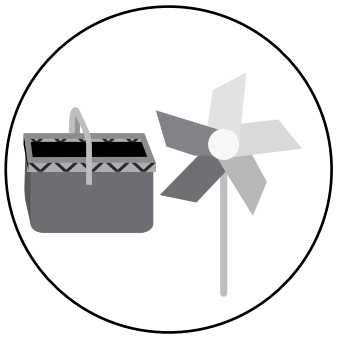
leaves: 5

no leaves: 3

2 Look at the data that shows where Han saw objects at the lake.

water

sky



sand

Show another way to represent the data that could help someone count how many in each category.

Draw

Sample response shown.

Sub-Unit 1 Checklist

Unit 1.1

Purpose: Use this checklist as students progress through the sub-unit. Look for students who demonstrate learning on these standards during Activities and Centers, and utilize the resources with students who need more support with the Skill or Concept.

Skill or Concept	Resources if students need support
a Organize data.	**Mini-Lessons:** *Sorting and Representing Shapes, Representing and Organizing Data* **As students work on Lessons 2–4, provide opportunities for:** • Having students revoice or explain the criteria other students used to sort data into categories. • Having students use tools, such as a sorting mat, to organize data. • Comparing different ways that data are organized and having students discuss which ways are helpful for identifying the amount for each category.
b Create a data representation.	**Mini-Lessons:** *Representing and Organizing Data, Creating and Interpreting Data Representations* **As students work on Lessons 2–4, provide opportunities for:** • Having students identify the features of a clear data representation and explain or revoice what information each feature provides. • Having students explain to a partner how they can use a data representation to find how many are in each category. • Comparing different ways that data are represented and having students discuss which ways would help someone understand the data.
c Tell how many are in each category of a data representation.	

Make enough copies so that you can record the names of each of your students. Consider making an additional copy of the Skills or Concepts to refer to as you observe student work throughout the sub-unit.

	Checklist		
Student Name	a	b	c
Notes:			
Notes:			
Notes:			
Notes:			
Notes:			
Notes:			
Notes:			
Notes:			
Notes:			
Notes:			

Name _____ Date _____

Quiz: Sub-Unit 2

Unit 1.1

Sample work shown.

For Problems 1–4, find the sum or difference.

Show or explain your thinking.

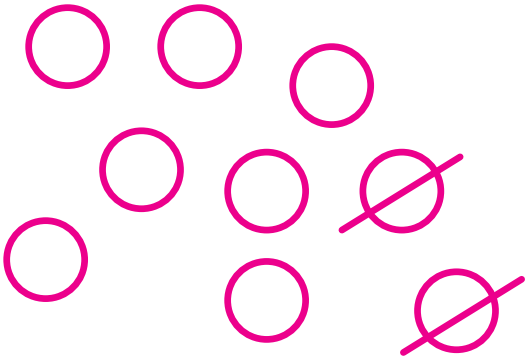
1 6 + 1 7

I just know it.

2 2 + 7 9

7 8 9

3 9 − 2 7



4 7 − 1 6

If I count back 1 from 7, it is 6.

5 Circle to show if the equation is *true* or *false*.

$6 + 1 = 2 + 6$

Show or explain your thinking.

Sample work shown.

6 (7) 6 (7) (8)

or

The equation is false. 1 more than 6 is 7, so 2 more than 6 cannot also be 7.

Sub-Unit 2 Checklist

Unit 1.1

Purpose: Use this checklist as students progress through the sub-unit. Look for students who demonstrate learning on these standards during Activities and Centers, and utilize the resources with students who need more support with the Skill or Concept.

Skill or Concept	Resources if students need support
a Add 1 to a number using strategies including counting on or using counting patterns.	**Mini-Lessons:** *Adding 1, Adding 1 and 2* **Center:** *Cover Up,* Stage 1 • After students choose a card, ask, "What would be the sum if you add 1? What if you add 2?" • Record students' thinking with equations. • At the end of the game, display the equations. Ask, "What patterns do you notice?"
b Add 2 to a number using strategies including counting on or using counting patterns.	
c Subtract 1 from a number using strategies including counting back or using counting patterns.	**Mini-Lessons:** *Subtracting 1, Subtracting 1 and 2* **Center:** *Counting Collections,* Stage 2 • Have students count a collection of up to 10 objects. • Ask, "What would be the difference if you subtract 1 from this collection? What if you subtract 2?" • Record students' thinking with an equation.
d Subtract 2 from a number using strategies including counting back or using counting patterns.	
e Determine if addition equations equating a number and an expression are true.	**Mini-Lesson:** *Determining If Addition Equations Are True* **As students work on Lesson 9, provide opportunities for:** • Having students explain how they determine whether an equation is true or false. • Representing the value of both sides of an equation with objects or a drawing and comparing the amounts to determine whether an equation is true or false.
f Determine if addition equations with expressions on both sides of the equal sign are true.	

Make enough copies so that you can record the names of each of your students. Consider making an additional copy of the Skills or Concepts to refer to as you observe student work throughout the sub-unit.

	Checklist					
Student Name	a	b	c	d	e	f
Notes:						
Notes:						
Notes:						
Notes:						
Notes:						
Notes:						
Notes:						
Notes:						
Notes:						
Notes:						
Notes:						

Sub-Unit 3 Checklist

Purpose: Use this checklist as students progress through the sub-unit. Look for students who demonstrate learning on these standards during Activities and Centers, and utilize the resources with students who need more support with the Skill or Concept.

Skill or Concept	Resources if students need support
a Interpret data to ask questions about how many in 1 or 2 categories.	**Mini-Lessons:** *Interpreting Data Represented With Tally Marks, Representing Data as Addition Equations* **As students work on Lessons 14–15, provide opportunities for:** • Asking questions about data representations. • Answering questions about data representations.
b Interpret data to answer questions about the total number of data points when there are 2 categories.	
c Understand the meaning of the equal sign.	**Mini-Lesson:** *Determining If Addition Equations Are True* **As students work on Lessons 13–14, provide opportunities for:** • Recording students' thinking related to addition equations and addition equations with expressions on either side of the equal sign. • Discussing equations after they are recorded, to highlight that the values on both sides of the equal sign are the same.

Make enough copies so that you can record the names of each of your students. Consider making an additional copy of the Skills or Concepts to refer to as you observe student work throughout the sub-unit.

	Checklist		
Student Name	a	b	c
Notes:			
Notes:			
Notes:			
Notes:			
Notes:			
Notes:			
Notes:			
Notes:			
Notes:			
Notes:			

Name _____ Date _____

End-of-Unit Assessment

Unit 1.1

For Problems 1–4, find the sum or difference.

1. 8 + 2 10

2. 7 − 1 6

3. 6 + 1 7

4. 9 − 2 7

5. Circle to show if the equation is *true* or *false*.

5 + 1 = 1 + 5 

Show or explain your thinking.

Sample work shown.

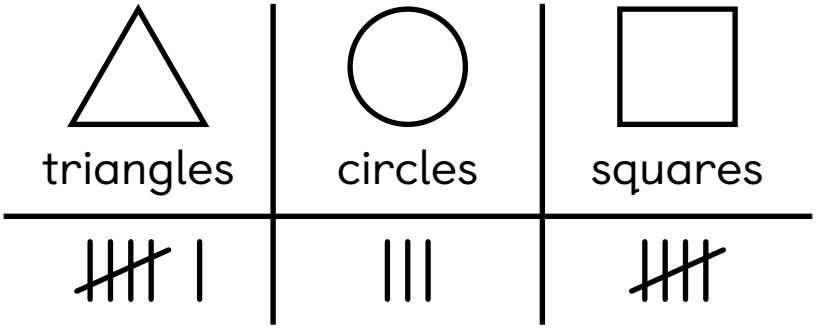
or

The equation is true. If you start with 1 and count on 5 more, or start with 5 and count on 1 more, you still get the same number.

Name _____ Date _____

The tally chart shows the different shapes on Jada's desk.

Jada's Shapes



Use the tally chart to complete Problems 6–8.

6 How many squares are on Jada's desk? 5

7 How many triangles and circles are on Jada's desk? 9

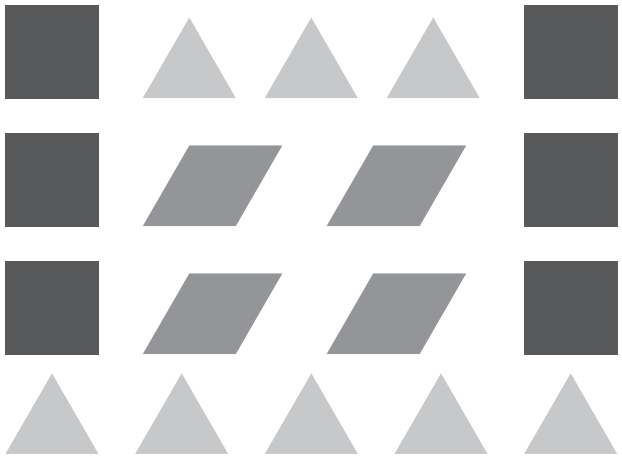
8 Write an addition equation that represents the sum of the triangles and circles. Sample equations shown.

6 + 3 = 9 or 9 = 6 + 3

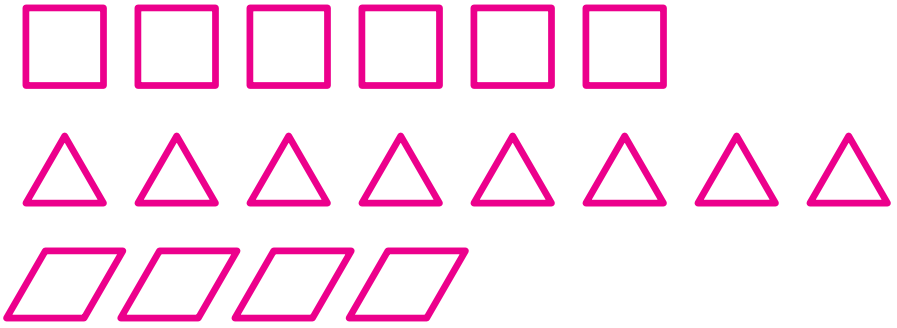
Name _____ Date _____

9 Han collected some shapes. Show a way to represent the data that could help someone count how many in each category.

Sample response shown.



Draw



10 Circle to show if the question can be answered using your representation.

What is Han's favorite shape?

Explain your answer.

Sample explanation shown.

This question cannot be answered because the data does not show which shape is Han's favorite.

GRADE 1

Show What You Know Assessments

The following includes all lesson-level Show What You Know assessments from one full unit. These daily formative assessments focus on the key concept of the lesson. Show What You Know assessments will also be available for students to complete digitally in Grades 2–5.

Name _____ Date _____

Show What You Know

1.02

Diego sorted objects into 3 categories. Use the image for Problems 1 and 2.

Category 1 **Category 2** **Category 3**

1 How did Diego sort the objects? **Sample responses shown.**

by shape or by number of sides or round shapes, rectangles, or triangles

2 How many shapes are in each category?

Category 1: 6 shapes

Category 2: 4 shapes

Category 3: 3 shapes

I can . . .

Tell how objects are sorted and count how many in each category.

Name _____ Date _____

Show What You Know

1.03

Sample responses shown.

Ying wants to sort these items from her new school. Use the image for Problems 1 and 2.

1 How could she sort the items into **2** categories?

She could sort by items that have rectangles and items that have circles.

2 How many items are in each category?

There are 4 items that have rectangles.

There are 3 items that have circles.

I can . . .

Sort objects and count how many are in each category.

Name _____ Date _____

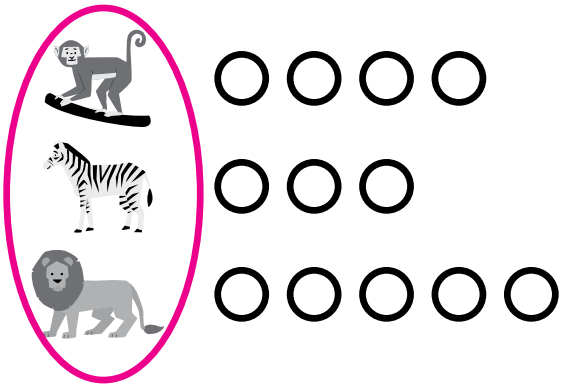
Show What You Know

1.04

Sample responses shown.

For Problems 1 and 2, use the data representation.

Favorite Zoo Animal



1 Circle 1 part of the representation that helps you understand the data.

Answer shown in the graph.

2 Explain how the part you circled helps you understand the data.

The pictures show the animals that kids voted for.

I can . . .

Represent data so others can understand.

Name _____ Date _____

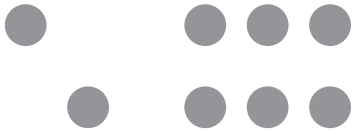
Show What You Know

1.05

1 Circle the addition expression that represents the total amount of dots in the 2 groups.

5 + 4 4 + 3 5 + 5

2 Write an addition expression that represents the total amount of dots in the 2 groups.



addition expression: 2 + 6 or 6 + 2

I can . . .

Use addition expressions to represent the total amount in 2 groups.

Name _____ Date _____

Show What You Know

1.06

Use the story for Problems 1 and 2.

There are 6 big monkeys and 3 little monkeys.

1 How many monkeys are there?

9 monkeys

2 Write an expression to represent the story.

6 + 3 or 3 + 6

I can . . .

Use objects to act out addition story problems and find the sums.

Name _____ Date _____

Show What You Know

1.07

For Problems 1–3, find the sum.

1. 2 + 1 3

2. 5 + 1 6

3. 1 + 8 9

I can . . .

Find the sum when adding 1.



Name _____ Date _____

Show What You Know

1.08

For Problems 1–4, find the sum.

1. 1 + 8 9

2. 2 + 8 10

3. 3 + 1 4

4. 3 + 2 5

I can . . .

Find the sum when adding 1 or 2 to a number.

Name _____ Date _____

Show What You Know

1.09

For Problems 1–3, circle to show if the equation is *true* or *false*.

1 2 + 3 = 6

2 8 = 7 + 1

3 3 + 7 = 5 + 5

I can . . .

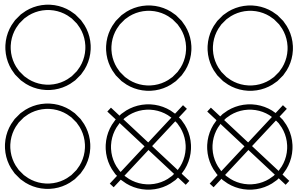
Figure out if addition equations are true or false.

Name _____ Date _____

Show What You Know

1.10

Ying told a subtraction story about Dad's rocks. Zora drew a picture to represent Ying's story.



Write a subtraction expression to represent Zora's drawing. Then find the difference.

Expression	Difference
6 − 2	4

I can . . .

Write an expression to represent a subtraction story problem and find the difference.

Name _____ Date _____

Show What You Know

1.11

For Problems 1–3, find the difference.

1. 7 − 1 6

2. 4 − 1 3

3. 9 − 1 8

I can . . .

Find the difference when subtracting 1.

Name _____ Date _____

Show What You Know

1.12

For Problems 1–4, find the difference or sum.

1. 8 − 2 6

2. 4 − 2 2

3. 7 + 2 9

4. 3 + 2 5

I can . . .

Find the difference or sum when subtracting 2 or adding 2.

Name _____ Date _____

Show What You Know

1.13

Ying surveyed her friends about their favorite pets. The tally chart shows the data.

Votes for Favorite Pet

cat	dog	fish
|||	~~||||~~	||||

Write an equation to represent the number of votes for cat and dog.

3 + 5 = 8 or 5 + 3 = 8

I can . . .

Find the sum to describe the total of 2 categories.

Name _____ Date _____

Show What You Know

1.14

Zora surveyed her friends to find their favorite recess activity. The tally chart shows the data.

Votes for Favorite Recess Activity

swing	soccer	hopscotch
||	||||	|||

Write a *true* statement that describes the sum of 2 categories. Sample response shown.

6 friends voted for soccer or swings.

I can . . .

Write a true statement that describes the sum of 2 categories of data.

Name _____ Date _____

Show What You Know

1.15

Zora made a tally chart to show how many times she read different types of books.

Books Zora Read

picture books	fairy tales	chapter books
||	𝍸	|

For Problems 1–3, circle to show if the question can be answered using the data.

1 Which type of book did Zora read the most times?

2 Which type of book is Zora's least favorite?

3 How many times did Zora read a comic book?

I can . . .

Find what questions can and cannot be answered about a tally chart.

Show What You Know **Lesson 2**

Name _____ Date _____

Show What You Know 1.02

Diego sorted objects into 3 categories. Use the image for Problems 1 and 2.

Category 1 Category 2 Category 3

1 How did Diego sort the objects? Sample responses shown.

by shape or by number of sides or round shapes, rectangles, or triangles

2 How many shapes are in each category?

Category 1: 6 shapes

Category 2: 4 shapes

Category 3: 3 shapes

I can . . .
Tell how objects are sorted and count how many in each category.

18

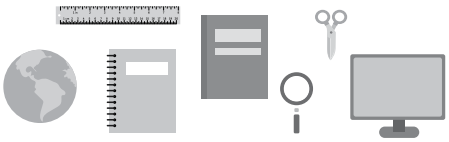
Show What You Know **Lesson 3**

Name _____ Date _____

Show What You Know 1.03

Sample responses shown.

Ying wants to sort these items from her new school. Use the image for Problems 1 and 2.



1 How could she sort the items into **2** categories?

She could sort by items that have rectangles and items that have circles.

2 How many items are in each category?

There are 4 items that have rectangles.

There are 3 items that have circles.

I can . . .
Sort objects and count how many are in each category.

19

Show What You Know **Lesson 4**

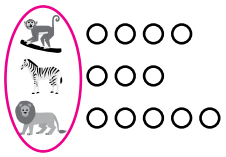
Name _____ Date _____

Show What You Know 1.04

Sample responses shown.

For Problems 1 and 2, use the data representation.

Favorite Zoo Animal



1 Circle 1 part of the representation that helps you understand the data.
Answer shown in the graph.

2 Explain how the part you circled helps you understand the data.

The pictures show the animals that kids voted for.

I can . . .
Represent data so others can understand.

20

Show What You Know **Lesson 5**

Name _____ Date _____

Show What You Know 1.05

1 Circle the addition expression that represents the total amount of dots in the 2 groups.

(5 + 4) 4 + 3 5 + 5

2 Write an addition expression that represents the total amount of dots in the 2 groups.

addition expression: 2 + 6 or 6 + 2

I can . . .
Use addition expressions to represent the total amount in 2 groups.

21

Show What You Know **Lesson 6**

Name _____ Date _____

Show What You Know 1.06

Use the story for Problems 1 and 2.
There are 6 big monkeys and 3 little monkeys.

1. How many monkeys are there?

   9 monkeys

2. Write an expression to represent the story.

   6 + 3 or 3 + 6

I can . . .
Use objects to act out addition story problems and find the sums.

22

Show What You Know **Lesson 7**

Name _____ Date _____

Show What You Know 1.07

For Problems 1–3, find the sum.

1. 2 + 1 3
2. 5 + 1 6
3. 1 + 8 9

I can . . .
Find the sum when adding 1.

23

Show What You Know **Lesson 8**

Name _____ Date _____

Show What You Know 1.08

For Problems 1–4, find the sum.

1. 1 + 8 9
2. 2 + 8 10
3. 3 + 1 4
4. 3 + 2 5

I can . . .
Find the sum when adding 1 or 2 to a number.

24

Show What You Know **Lesson 9**

Name _____ Date _____

Show What You Know 1.09

For Problems 1–3, circle to show if the equation is *true* or *false*.

1. 2 + 3 = 6

2. 8 = 7 + 1

3. 3 + 7 = 5 + 5

I can . . .
Figure out if addition equations are true or false.

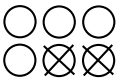
25

Show What You Know **Lesson 10**

Name _____ Date _____

Show What You Know 1.10

Ying told a subtraction story about Dad's rocks.
Zora drew a picture to represent Ying's story.



Write a subtraction expression to represent Zora's drawing. Then find the difference.

Expression	Difference
6 − 2	4

I can . . .
Write an expression to represent a subtraction story problem and find the difference.

26

Show What You Know **Lesson 11**

Name _____ Date _____

Show What You Know 1.11

For Problems 1–3, find the difference.

1. 7 − 1 = 6
2. 4 − 1 = 3
3. 9 − 1 = 8

I can . . .
Find the difference when subtracting 1.

27

Show What You Know **Lesson 12**

Name _____ Date _____

Show What You Know 1.12

For Problems 1–4, find the difference or sum.

1. 8 − 2 = 6
2. 4 − 2 = 2
3. 7 + 2 = 9
4. 3 + 2 = 5

I can . . .
Find the difference or sum when subtracting 2 or adding 2.

28

Show What You Know **Lesson 13**

Name _____ Date _____

Show What You Know 1.13

Ying surveyed her friends about their favorite pets.
The tally chart shows the data.

Votes for Favorite Pet

cat	dog	fish
|||	~~||||~~	||||

Write an equation to represent the number of votes for cat and dog.

3 + 5 = 8 or 5 + 3 = 8

I can . . .
Find the sum to describe the total of 2 categories.

29

Show What You Know **Lesson 14**

Name _____ Date _____

Show What You Know 1.14

Zora surveyed her friends to find their favorite recess activity. The tally chart shows the data.

Votes for Favorite Recess Activity

swing	soccer	hopscotch
||	||||	|||

Write a *true* statement that describes the sum of 2 categories. Sample response shown.

6 friends voted for soccer or swings.

I can . . .
Write a true statement that describes the sum of 2 categories of data.

Show What You Know **Lesson 15**

Name _____ Date _____

Show What You Know 1.15

Zora made a tally chart to show how many times she read different types of books.

Books Zora Read

picture books	fairy tales	chapter books
||	𝍸 ||	|

For Problems 1–3, circle to show if the question can be answered using the data.

1. Which type of book did Zora read the most times?

2. Which type of book is Zora's least favorite?

3. How many times did Zora read a comic book?

I can . . .
Find what questions can and cannot be answered about a tally chart.

GRADE 1

Mini-Lessons

The following section includes a selection of Mini-Lessons that support core instruction. These 15-minute lessons are aligned to the most critical topics throughout a unit to provide targeted intervention to small groups who need additional support. Mini-Lessons appear as a support activity in the differentiation options supporting each lesson.

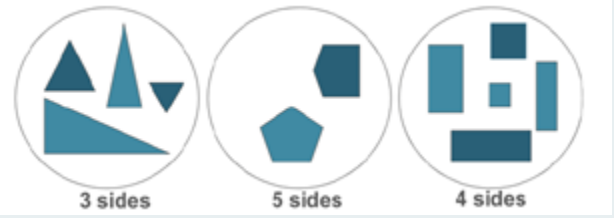
Name _____ Date_____

Sorting and Representing Shapes

ML 1.02

Modeled Review

The objects are sorted by number of sides. The number of objects in each category is shown.



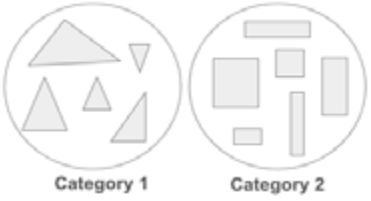
3 sides: 4

5 sides: 2

4 sides: 5

Guided Practice

For Problems 1–4, use the image and word bank.



Word Bank:
rectangle
triangle

1. The objects are sorted by <u>shape</u>.
2. Category 1 has ___triangle___ shapes.
3. Category 2 has ___rectangle___ shapes.
4. Write the number of objects in each category.

   Category 1: 5

   Category 2: 6

Guided Practice

For Problems 5–6, use the image.

5. How are the objects sorted? **Sample response shown.**

They are sorted by shape.

6. Write the number of objects in each category.

Category 1: 2 Category 2: 5 Category 3: 3

Check

For Problems 1 and 2, use the image.

1. How are the objects sorted? **Sample response shown.**

They are sorted by shape.

2. Write the number of objects in each category.

Category 1: 5 Category 2: 4 Category 3: 2

Goal

Describe how shapes are sorted into categories and identify how many are in each category.

Standard

1.MD.C.4

Materials

coloring tools, pattern blocks

Modeled Review

Point to the problem in the Modeled Review and **ask:**

- "What do you notice about how the objects are sorted?"
- "What is the same about all the objects in each category?"

Reinforce the goal by saying, "Objects can be organized, or sorted in different ways. They can be sorted by shape, size, or color."

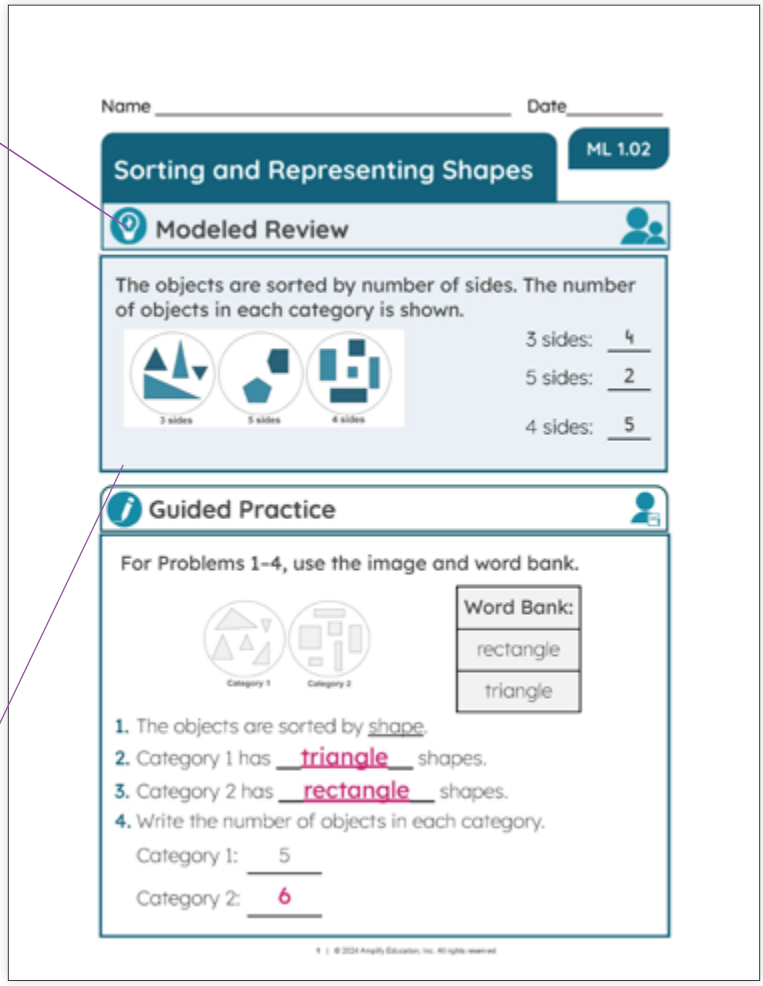
ML/EL Model touching and counting the objects to determine the quantity of objects in each category.

Guided Practice

For each problem, focus students' attention on describing how objects are sorted into different categories.

To scaffold their thinking, **ask:**

- "What do all the shapes in Category 1 have in common?"
- "What do all the shapes in Category 2 have in common?"



Name _____ Date _____

Sorting and Representing Shapes ML 1.02

Modeled Review

The objects are sorted by number of sides. The number of objects in each category is shown.

3 sides: 4
5 sides: 2
4 sides: 5

Guided Practice

For Problems 1–4, use the image and word bank.

Word Bank: rectangle, triangle

1. The objects are sorted by shape.
2. Category 1 has triangle shapes.
3. Category 2 has rectangle shapes.
4. Write the number of objects in each category.

Category 1: 5
Category 2: 6

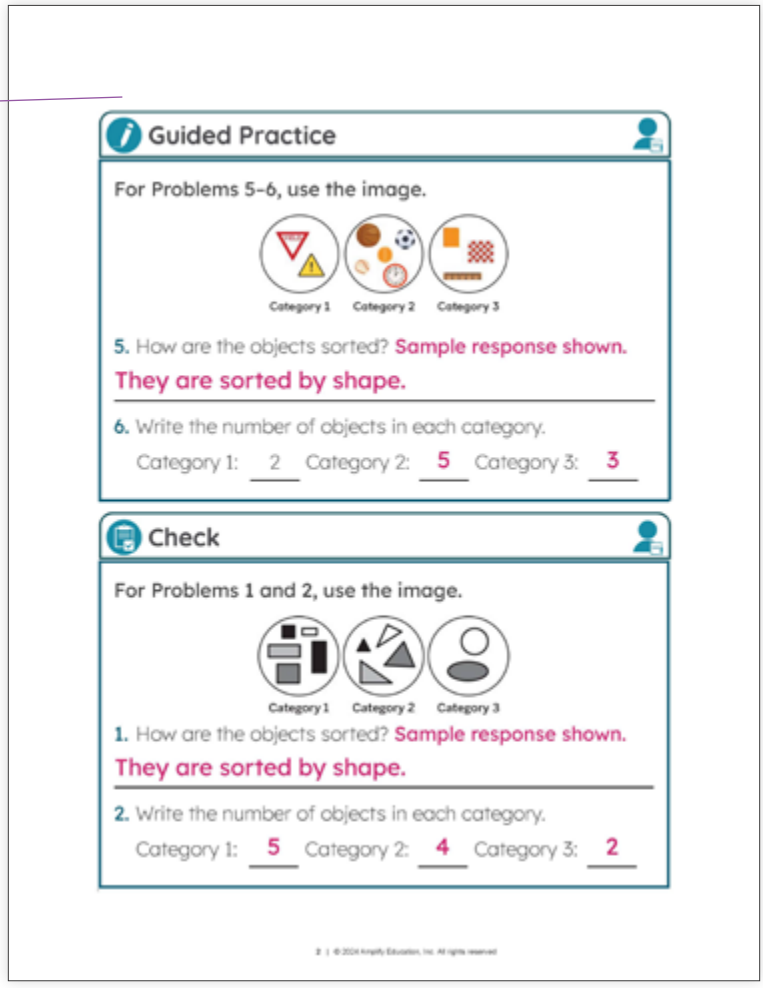
Vocabulary

If needed, share the meaning of the word with students.
category: A label that tells how objects in a group are alike.

Guided Practice

A Guide visualization by suggesting students color code their representations to help others see their categories.

Key Takeaway:
Say, "Objects can be organized into categories and represented with pictures, symbols, numbers, or words to make information clear for others to understand."



Guided Practice

For Problems 5–6, use the image.

Category 1 Category 2 Category 3

5. How are the objects sorted? Sample response shown.
They are sorted by shape.

6. Write the number of objects in each category.
Category 1: 2 Category 2: 5 Category 3: 3

Check

For Problems 1 and 2, use the image.

Category 1 Category 2 Category 3

1. How are the objects sorted? Sample response shown.
They are sorted by shape.

2. Write the number of objects in each category.
Category 1: 5 Category 2: 4 Category 3: 2

Reflection

Ask:
- "How can clear and organized representation be helpful when making sense of problems?"
- "How did you overcome a hard problem today?"

Check: Recommended Next Steps

Almost there	**Got it!**
If students need more support, consider using Kindergarten Mini-Lesson 3.05: *Sorting Shapes Into Categories*.	If students need more practice, provide students with pattern blocks and ask them to sort the pattern blocks into categories and determine the number of blocks in each category.

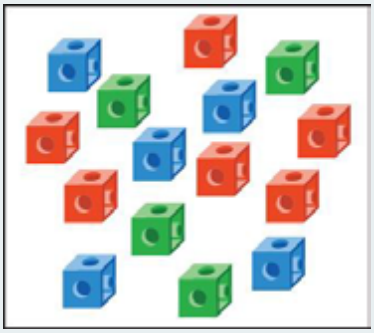
Name _____ Date_____

Representing and Organizing Data

ML 1.03

Modeled Review

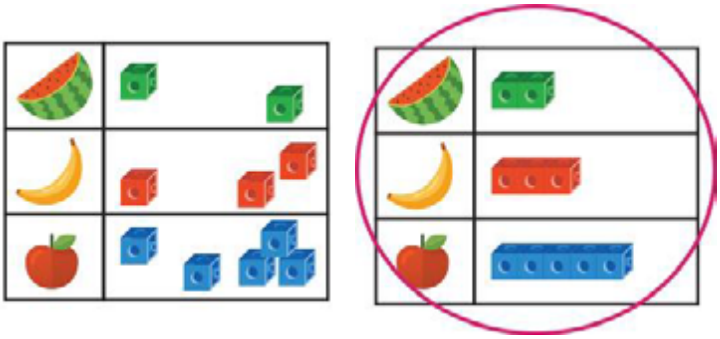
Students voted on their favorite sport. The votes are shown in two ways.



football	
baseball	
soccer	

Guided Practice

Students voted on their favorite fruit. The votes are organized in a table in two different ways.



1. Circle the table that is more organized.

Guided Practice

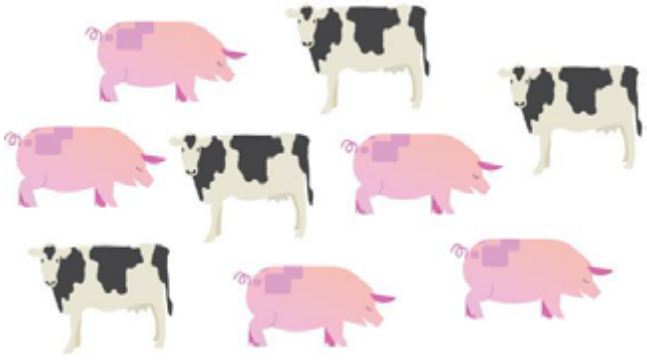
Students voted on their favorite pet.

2. Use connecting cubes to build two towers that represent the data.
3. How many pets are in each category?

There are 6 dogs and 3 cats.

Check

Students voted on their favorite farm animal.



1. Use connecting cubes to build two towers to represent the data.
2. How many animals are in each category?

There are 5 pigs and 4 cows.

Goal

Organize data representations and answer questions about data.

Standard	Materials
1.MD.C.4	connecting cubes

Modeled Review

Point to the problem in the Modeled Review and **ask:**

- "Which way of representing the data is more organized? Why?"
- "How does the way the data is organized help you count how many are in each category?"

Reinforce the goal by saying, "Data can be organized in ways that are helpful for finding how many are in each category."

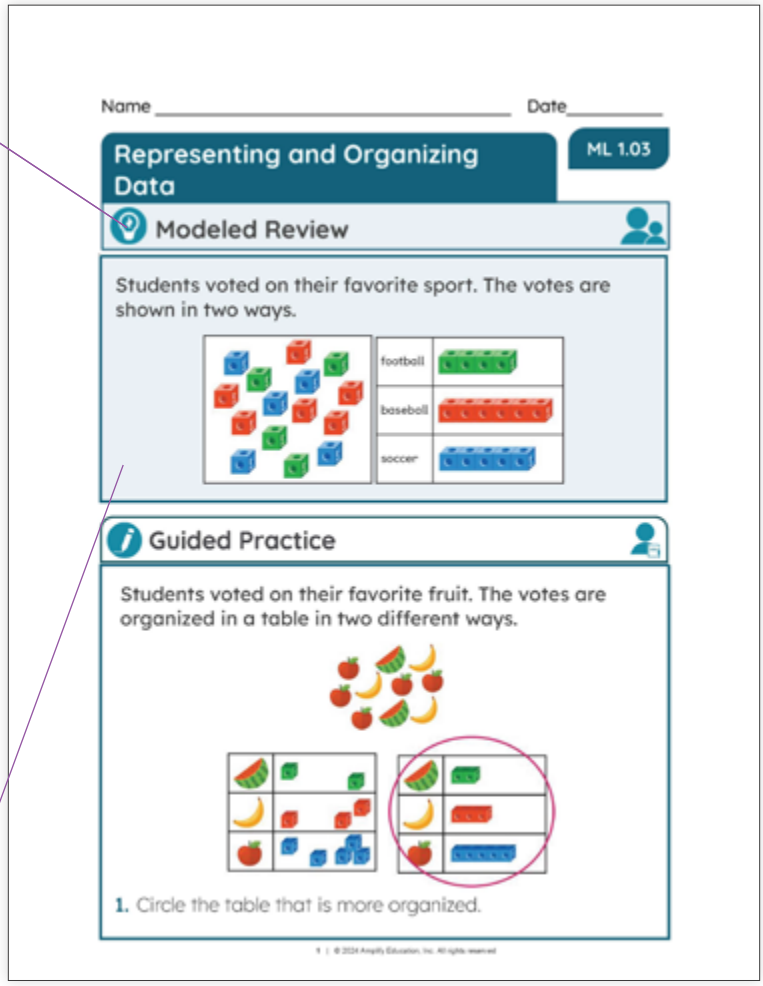
ML/EL Invite students to touch and count the red cubes in the scattered arrangement and the organized arrangement. Draw students attention to how they both represent the same number.

Guided Practice

For each problem, focus students' attention on the organization of data in both tables.

To scaffold their thinking, **ask:**

- "Which data was easier to count?"
- "Which table was easier to read?"



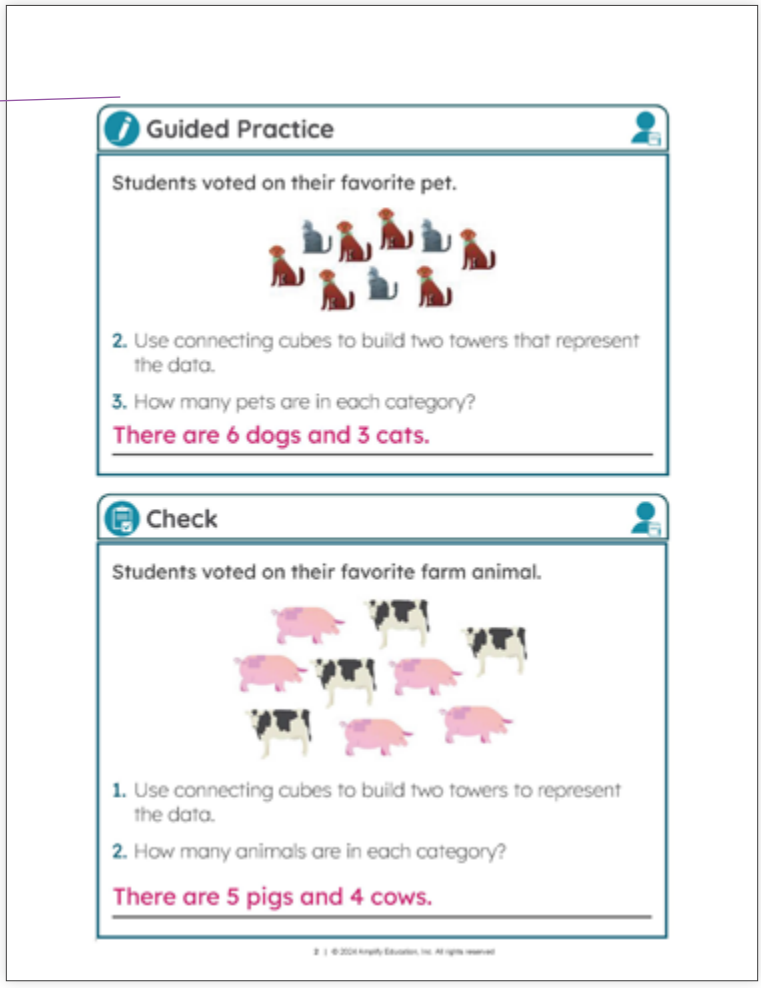
Vocabulary

If needed, share the meaning of the words with students.
data: Information about things or people in a group.
survey: A tool that can be used to collect information about a group of people's answers to the same question.

Guided Practice

A Provide students with connecting cubes to represent the situations described in the problems.

Key Takeaway:
Say, "Data can be organized and represented by categories in ways that are helpful for finding the total amount in each category."



Guided Practice

Students voted on their favorite pet.

2. Use connecting cubes to build two towers that represent the data.
3. How many pets are in each category?

There are 6 dogs and 3 cats.

Check

Students voted on their favorite farm animal.

1. Use connecting cubes to build two towers to represent the data.
2. How many animals are in each category?

There are 5 pigs and 4 cows.

Reflection

Ask:
- "Why might a mathematician organize data?"
- "What made sense after today's learning?"

Check: Recommended Next Steps

Almost there	**Got it!**
If students need more support, consider using Mini-Lesson 1.02: *Sorting and Representing Shapes*.	If students need more practice, provide students with two different colored connecting cubes and have them organize the cubes into colored categories.

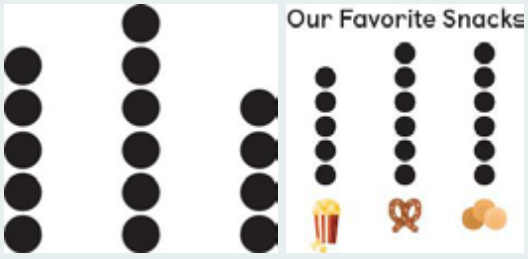
Name _____ Date_____

Creating and Interpreting Data Representations

ML 1.04

Modeled Review

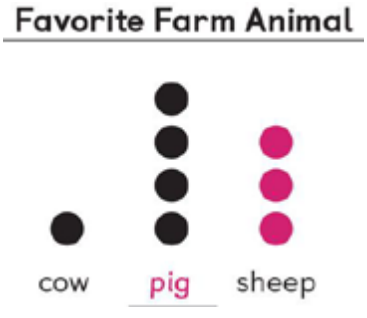
Students voted on their favorite snack. The votes are shown in two ways.



Guided Practice

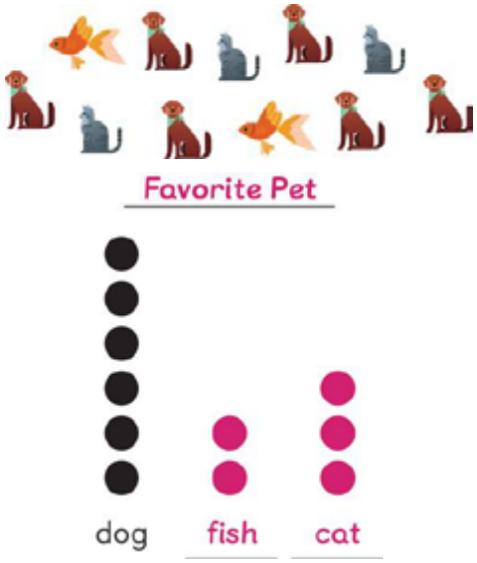
Students voted on their favorite farm animal.

1. Write the missing label and draw dots to show the missing number of sheep.



Guided Practice

2. Students voted on their favorite pet. Write the missing labels and draw dots to show the missing data. **Sample response shown.**



Check

Students voted on their favorite sport. Create a data representation to show the data. Sample response shown.

Goal

Represent data and explain how the features of a data representation are helpful for understanding the data.

Standard

1.MD.C.4

Materials

connecting cubes, two-color counters

Modeled Review

Point to the problem in the Modeled Review and **ask:**

- "What is the same about how the data is shown in the two representations? What is different?"
- "Which representation would you choose to use? Why?"

Reinforce the goal by saying, "Without a title and labels it can be unclear what the data shows."

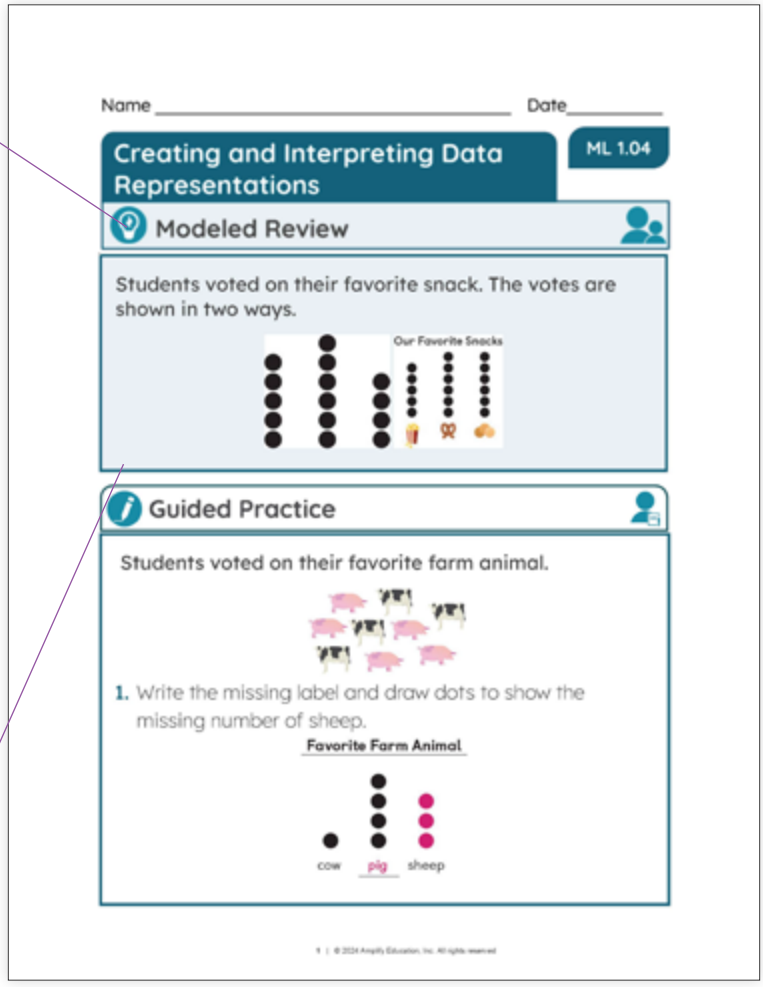
ML/EL Provide students with a checklist for representing the data, including the title, the category labels, and the number of votes.

Guided Practice

For each problem, focus students' attention on representing the data presented.

To scaffold their thinking, **ask:**

- "Using the data in the picture, what label needs to be added?"
- "How many dots need to be added?"


Name _____ Date_____

Creating and Interpreting Data Representations

ML 1.04

Modeled Review

Students voted on their favorite snack. The votes are shown in two ways.

Our Favorite Snacks

Guided Practice

Students voted on their favorite farm animal.

1. Write the missing label and draw dots to show the missing number of sheep.

Favorite Farm Animal

cow pig sheep

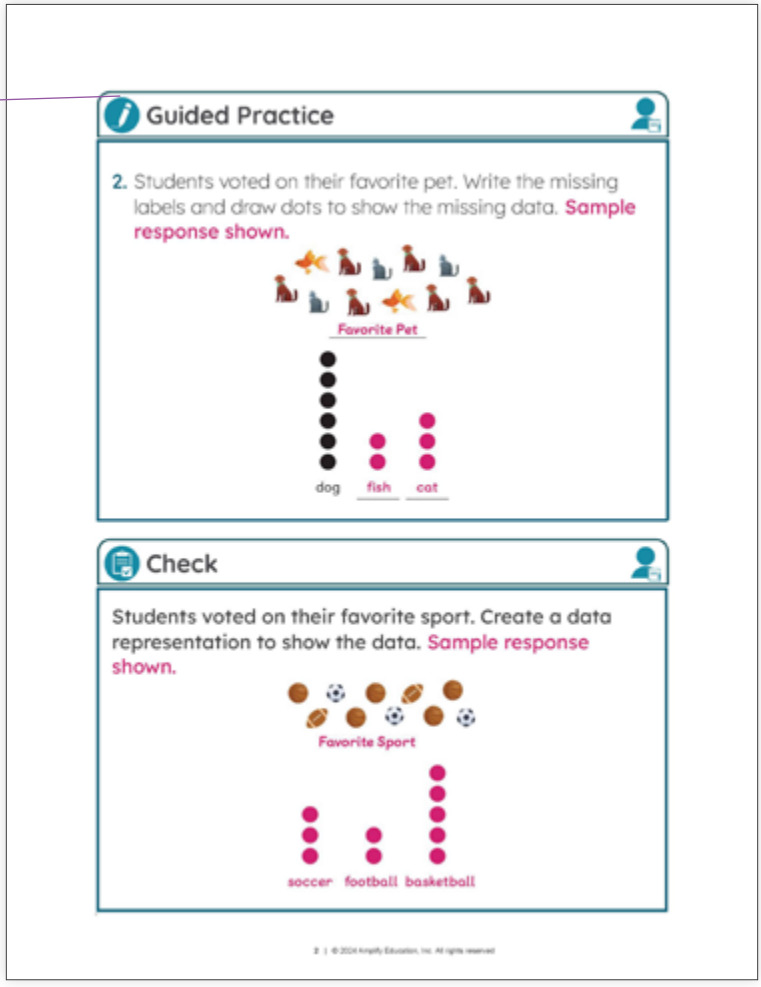
Vocabulary

If needed, share the meaning of the words with students.
category: A label that tells how objects in a group are alike.
data: Information about things or people in a group.

Guided Practice

A Provide students with connecting cubes or two-color counters to represent the data presented in each problem.

Key Takeaway:
Say, "Clear data representations include a title that describes the question answered by the data and labels that describe each category of data."



Reflection

Ask:
- "What parts of a data representation help you understand what the data shows?"
- "After today's learning, what questions do you still have?"

Check: Recommended Next Steps

Almost there	**Got it!**
If students need more support, consider using Mini-Lesson 1.03: *Representing and Organizing Data*.	If students need more practice, sketch 5 circles, 2 rectangles, and 3 triangles. Then have students represent the data including a title and labels.

Name _____ Date_____

Writing Addition Expressions

ML 1.05

Modeled Review

addition expression: 3 + 2

Guided Practice

For Problems 1–3, write an addition expression to represent the picture. Sample response shown for Problem 3.

1. 

addition expression: 2 + 4

2. 

addition expression: 4 + 3

3. 

addition expression: 5 + 2

Guided Practice

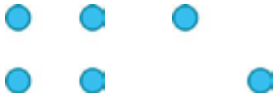
For Problems 4–7, write an addition expression to represent the dots. Sample responses shown.

4. 

3 + 5

5. 

6 + 1

6. 

addition expression: 4 + 2

7. 

addition expression: 2 + 6

Check

Write an addition expression to represent the dots. Sample response shown.

addition expression: 3 + 4

Goal

Represent the total amount in two groups with an addition expression.

Standard

1.OA.C.5

Materials

connecting cubes

Modeled Review

Point to the problem in the Modeled Review and **ask:**

- "Where do you see 3 in the picture? Where do you see 3 in the expression?"
- "Where do you see 2 in the picture? Where do you see 2 in the expression?"

Reinforce the goal by saying, "An addition expression includes numbers that represent each group with a plus sign."

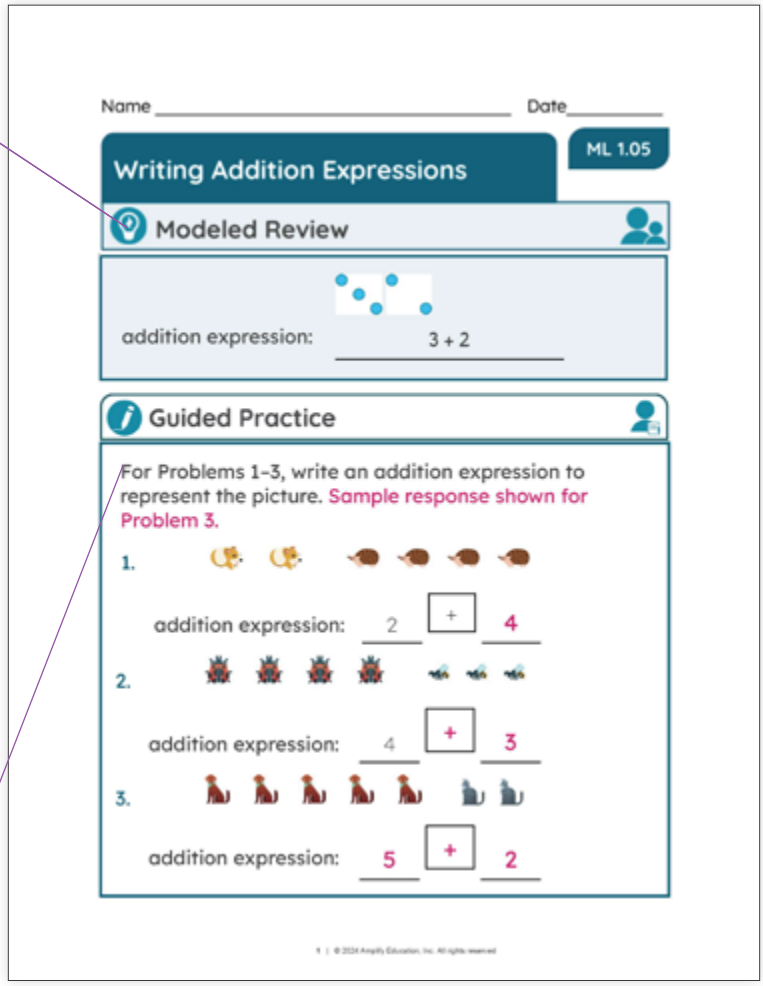
ML/EL Model touching and counting the images in each set and verbalizing the total amount in each group as you write the expression.

Guided Practice

For each problem, focus students' attention on writing an addition expression to represent each picture.

To scaffold their thinking, **ask:**

- "How many do you see in the first group? Where could you write that number in your expression?"
- "How many do you see in the second group? Where could you write that number in your expression?"


Name _____ Date _____

Writing Addition Expressions — ML 1.05

Modeled Review

addition expression: 3 + 2

Guided Practice

For Problems 1–3, write an addition expression to represent the picture. Sample response shown for Problem 3.

1. addition expression: 2 + 4

2. addition expression: 4 + 3

3. addition expression: 5 + 2

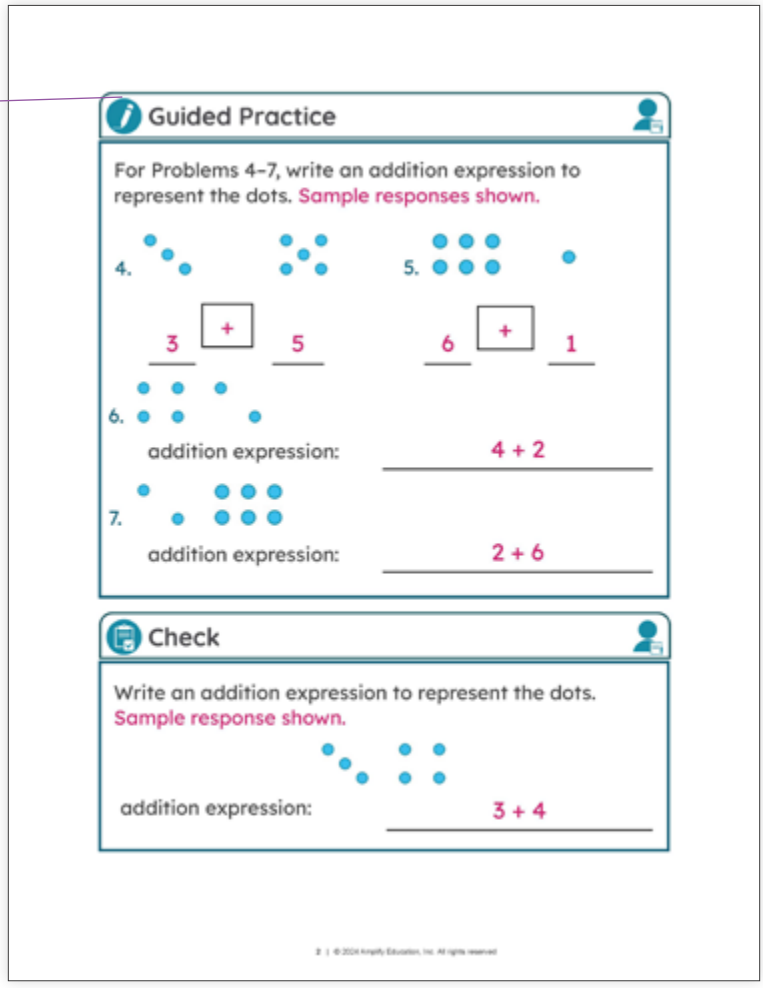
Vocabulary

If needed, share the meaning of the words with students.
category: A label that tells how objects in a group are alike.
data: Information about things or people in a group.
expression: A mathematical phrase with numbers and symbols.

Guided Practice

A Clarify the term expression by displaying examples of expressions or by drawing lines or boxes that show structure of an expression on which students may write.

Key Takeaway:
Say, "Addition expressions can represent the total amount in two groups."



Reflection

Ask:
- "What can numbers in an addition expression represent?"
- "What makes sense? What questions do you still have?"

Check: Recommended Next Steps

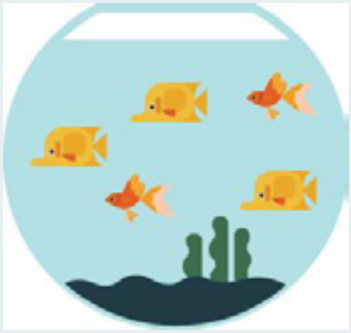
Almost there	**Got it!**
If students need more support, consider using Kindergarten Mini-Lesson 4.05: *Representing Addition With Objects*.	If students need more practice, have students grab two handfuls of connecting cubes and represent the two groups with an addition expression.

Name _____ Date _____

Representing and Solving Addition Story Problems

ML 1.06

Modeled Review



Name: Clare

There are 3 yellow fish and 2 orange fish.

1. How many fish are there?

answer: 5 fish

2. write an addition expression to match the story.

expression: 3 + 2

Guided Practice

Use the stories to complete the problems.

1. Eva saw 2 turtles and Han saw 6 turtles. How many turtles did they see in all?

8 turtles

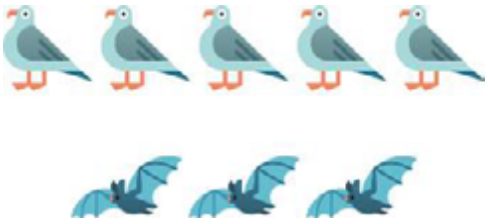
2. There are 4 brown worms and 2 pink worms. How many worms are there in all?

6 worms

Guided Practice

Use the stories to complete the problems. Write an expression to match each story.

3. There are 5 birds and 3 bats. How many animals are there in all?



answer: 8 animals **expression:** 5 + 3

4. Shawn saw 2 dogs and Priya saw 7 dogs. How many dogs did they see in all?

answer: 9 dogs **expression:** 2 + 7

5. There are 3 big fish and 4 small fish. How many fish are there in all?

answer: 7 fish **expression:** 3 + 4

Check

Use the story to complete the problem.

Jada saw 6 black bears and 3 polar bears at the zoo. How many bears did she see in all?

answer: 9 bears **expression:** 6 + 3

Goal

Represent story problems using addition expressions and determine the sum.

Standard

1.OA.A.1

Materials

connecting cubes

Modeled Review

Point to Clare's work and **ask:**

- "What is being counted?
- "Where is the number of yellow fish in Clare's expression? Orange fish?"
- "How did Clare find the total number of fish?"

Reinforce the goal by saying, "The groups represent what is being added to find the sum."

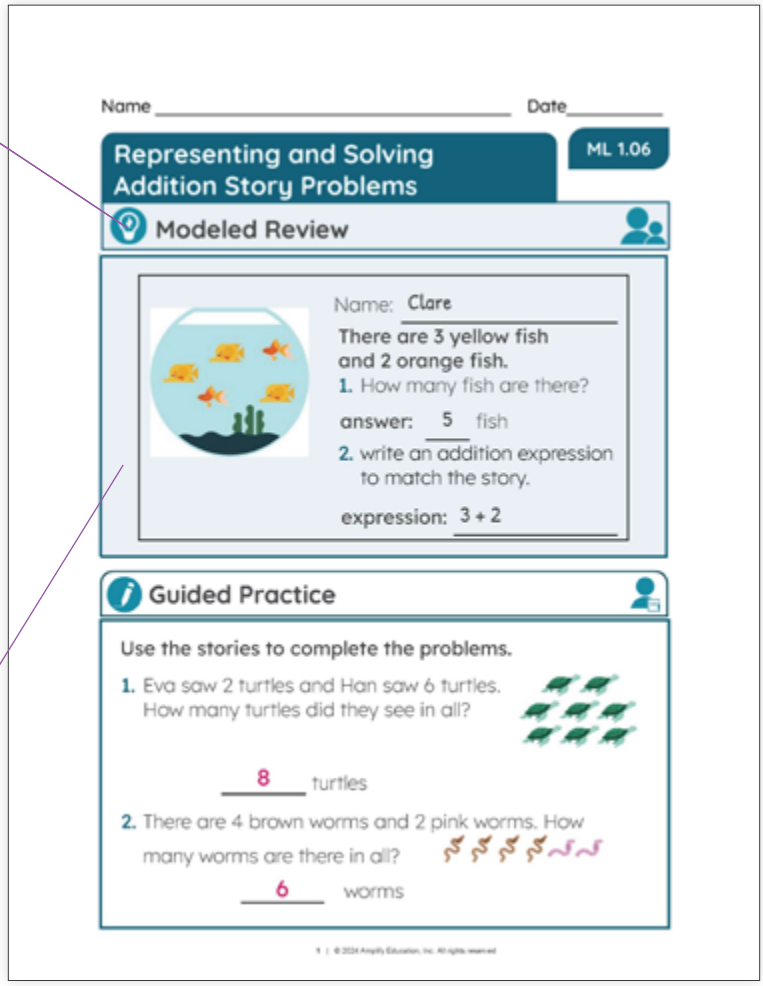
ML/EL Model locating the numbers represented by each group of animals.

Guided Practice

For each problem, focus students' attention on solving the story problems.

To scaffold their thinking, **ask:**

- "What is the story problem asking?"
- "How can you use the images to help you solve the story problem?"


Name _____ Date _____

Representing and Solving Addition Story Problems

ML 1.06

Modeled Review

Name: Clare

There are 3 yellow fish and 2 orange fish.

1. How many fish are there?

answer: 5 fish

2. write an addition expression to match the story.

expression: 3 + 2

Guided Practice

Use the stories to complete the problems.

1. Eva saw 2 turtles and Han saw 6 turtles. How many turtles did they see in all?

8 turtles

2. There are 4 brown worms and 2 pink worms. How many worms are there in all?

6 worms

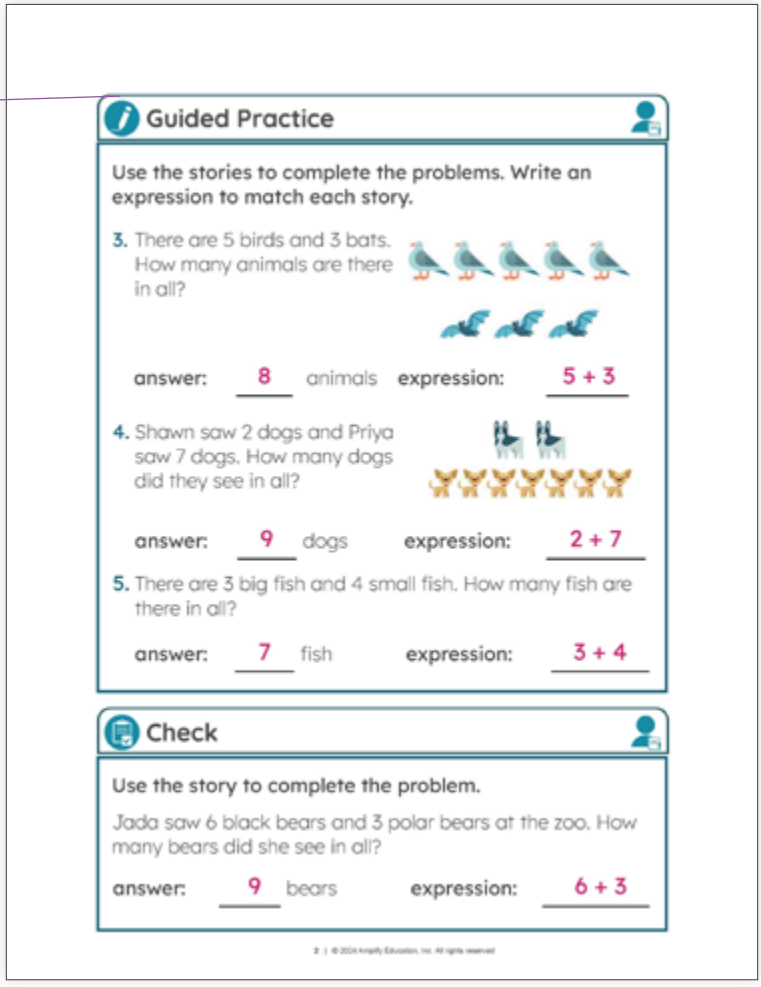
Vocabulary

If needed, share the meaning of the words with students.
sum: The total when two or more numbers are added.
add: Combine numbers to find the sum.
expression: A mathematical phrase with numbers and symbols.

Guided Practice

A Guide processing by having students circle the known amounts in each story problem.

Key Takeaway:
Say, "Addition can be represented with story problems, objects, pictures, or expressions."



Guided Practice

Use the stories to complete the problems. Write an expression to match each story.

3. There are 5 birds and 3 bats. How many animals are there in all?

answer: 8 animals expression: 5 + 3

4. Shawn saw 2 dogs and Priya saw 7 dogs. How many dogs did they see in all?

answer: 9 dogs expression: 2 + 7

5. There are 3 big fish and 4 small fish. How many fish are there in all?

answer: 7 fish expression: 3 + 4

Check

Use the story to complete the problem.

Jada saw 6 black bears and 3 polar bears at the zoo. How many bears did she see in all?

answer: 9 bears expression: 6 + 3

Reflection

Ask:
- "How can you use tools or drawings to represent an addition story problem?"
- "What strategy was helpful when solving the addition story problems?"

Check: Recommended Next Steps

Almost there	**Got it!**
If students need more support, consider using Mini-Lesson 1.05: *Writing Addition Expressions*.	If students need more practice, ask them to represent the story problems using connecting cubes and write the matching addition expression. • Diego saw 4 dogs and Clare saw 5 dogs. How many dogs did they see in all? • There are 3 brown bears and 5 black bears. How many bears are there in all?

Name _____ Date _____

Adding 1

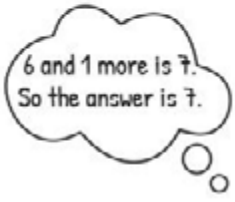
ML 1.07

Modeled Review

Name: Shawn

Find the sum.

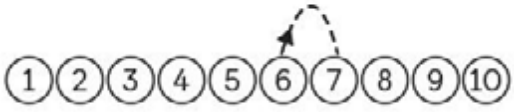
6 + 1 = 7



Name: Priya

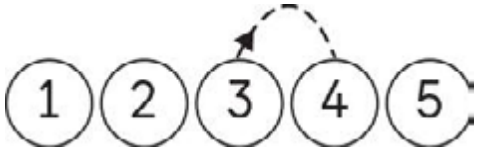
Find the sum.

6 + 1 = 7

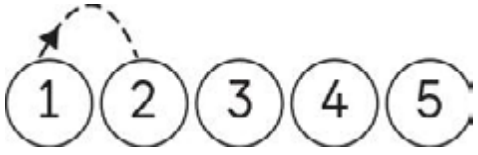


Guided Practice

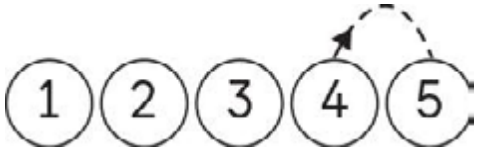
Find each sum. Use the number path if it is helpful.

1. 

3 + 1 = 4

2. 

1 + 1 = 2

3. 

4 + 1 = 5

Guided Practice

Find each sum. Use the number path if it is helpful.

1 2 3 4 5 6 7 8 9 10

4. 1 + 1 = 2

5. 9 + 1 = 10

6. 5 + 1 = 6

7. 8 + 1 = 9

8. 3 + 1 = 4

Check

Find the sum.

1. 7 + 1 = 8

2. 2 + 1 = 3

Adding 1

Teacher's Guide **ML 1.07**

Goal

Find the sum of expressions when adding one.

Standard

1.OA.C.5

Materials

connecting cubes

Modeled Review

Point to Shawn's and Priya's work and **ask:**

- "How did Shawn find the sum for 6 + 1?"
- "How did Priya find the sum for 6 + 1?"
- "What do you notice about the sum for 6 + 1?"

Reinforce Shawn's and Priya's thinking by saying, "To find the sum of a number and 1, you can count 1 more."

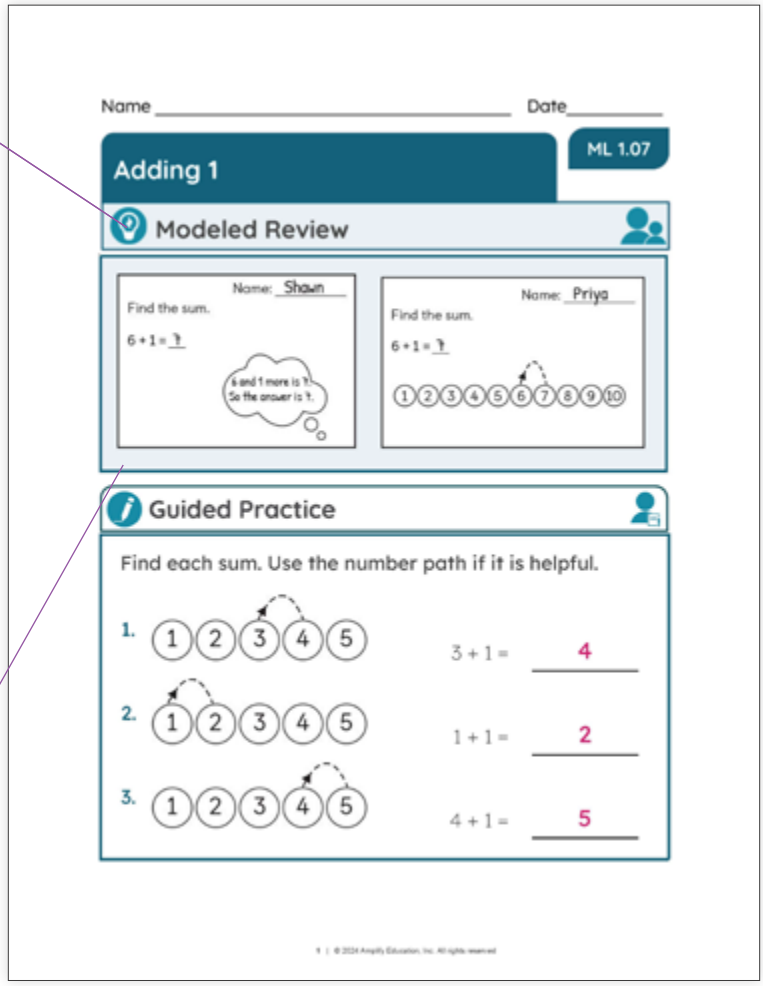
ML/EL Invite students to share what strategy they will use to find the sum.

Guided Practice

For each problem, focus students' attention on finding the sum of the addition equations.

To scaffold their thinking, **say:**

- "If it is helpful, you can use the number path to find the sum of the equations."
- "You can also use another strategy like Shawn's to find the sum."


Name _____ Date _____

Adding 1 ML 1.07

Modeled Review

Name: Shawn
Find the sum.
6 + 1 = ?
6 and 1 more is 7.
So the answer is 7.

Name: Priya
Find the sum.
6 + 1 = ?
1 2 3 4 5 6 7 8 9 10

Guided Practice

Find each sum. Use the number path if it is helpful.

1. 1 2 3 4 5 — 3 + 1 = 4
2. 1 2 3 4 5 — 1 + 1 = 2
3. 1 2 3 4 5 — 4 + 1 = 5

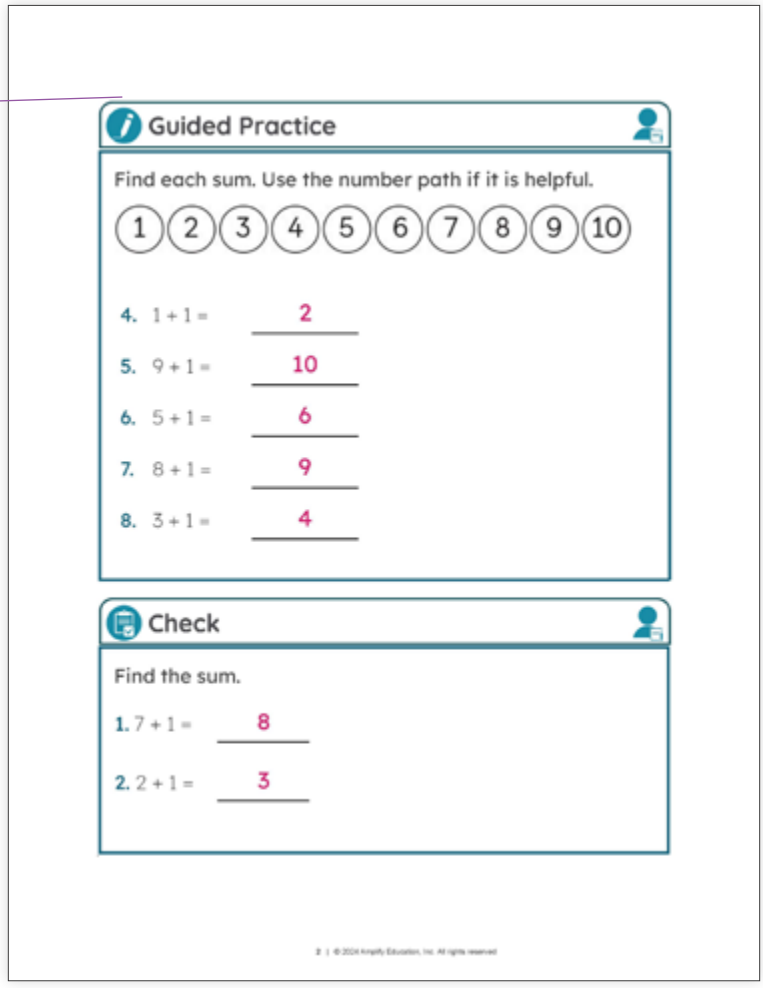
Vocabulary

If needed, share the meaning of the words with students:
sum: The total when two or more numbers are added.
expression: A mathematical phrase with numbers and symbols.

Guided Practice

A Provide students with connecting cubes to represent the addition equations and find the sum.

Key Takeaway:
Say, "Counting 1 more is the same as adding 1 more."



Guided Practice

Find each sum. Use the number path if it is helpful.

1 2 3 4 5 6 7 8 9 10

4. 1 + 1 = 2
5. 9 + 1 = 10
6. 5 + 1 = 6
7. 8 + 1 = 9
8. 3 + 1 = 4

Check

Find the sum.

1. 7 + 1 = 8
2. 2 + 1 = 3

Reflection

Ask:
- "How is adding related to counting?"
- "What strategy was helpful when finding the sum of the addition equations?"

Check: Recommended Next Steps

Almost there	**Got it!**
If students need more support, consider using Kindergarten Mini-Lesson 4.02: *Counting to Find the Total Number of Objects in Two Groups*.	If students need more practice, have students find the sum of the following equations. 2 + 1 8 + 1 5 + 1

Name _____ Date _____

Adding 1 and 2

ML 1.08

Modeled Review

Name: Diego

Find the sum.

2 + 2 = 4

Name: Clare

Find the sum.

5 + 1 = 6

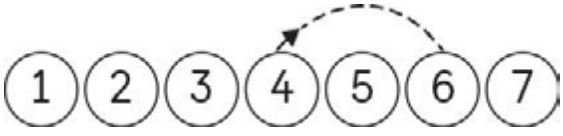
5 and 1 more is 6. So 5 + 1 is 6.

Guided Practice

Find each sum. Use the number path if it is helpful.

1. 

3 + 2 = 5

2. 

4 + 2 = 6

3. 

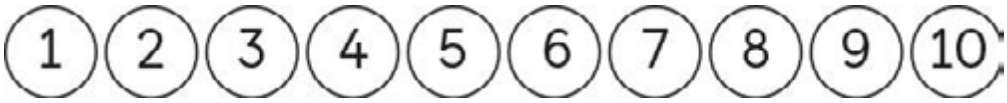
1 + 2 = 3

4. 

5 + 2 = 7

Guided Practice

Find each sum. Use the number path if it is helpful.



5. $8 + 2 =$ 10

6. $3 + 1 =$ 4

7. $6 + 2 =$ 8

8. $9 + 1 =$ 10

9. $2 + 2 =$ 4

Check

Find each sum.

1. $7 + 2 =$ 9

2. $4 + 1 =$ 5

Adding 1 and 2

Teacher's Guide **ML 1.08**

Goal

Find the sum of expressions when adding 1 or 2.

Standard

1.OA.C.5

Materials

connecting cubes

Modeled Review

Point to Diego's and Clare's work and **ask:**

- "How did Diego find the sum for 2 + 2?"
- "How did Clare find the sum for 5 + 1?"
- "What other strategy could you use to find the sum for 2 + 2? 5 + 1?"

Reinforce Diego's and Clare's thinking by saying, "Counting on 1 or 2 can be used to add 1 or 2 to a number."

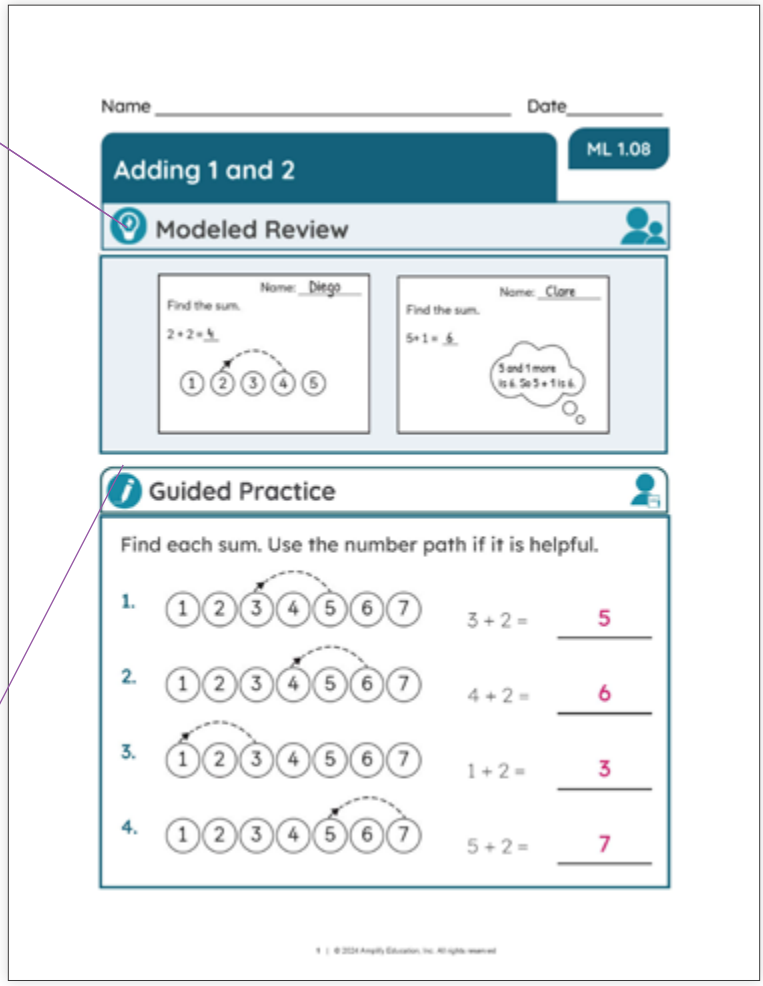
ML/EL Invite students to share what strategy they will use to find the sum.

Guided Practice

For each problem, focus students' attention on finding the sum of the addition equations.

To scaffold their thinking, **say:**

- "Number paths are one strategy you can use to find the sum when adding 2."
- "You can also use another strategy, like Clare's, to find the sum."


Name _____ Date _____

Adding 1 and 2 — ML 1.08

Modeled Review

Name: Diego
Find the sum.
2 + 2 = 4
1 2 3 4 5

Name: Clare
Find the sum.
5 + 1 = 6
5 and 1 more is 6. So 5 + 1 is 6.

Guided Practice

Find each sum. Use the number path if it is helpful.

1. 1 2 3 4 5 6 7 — 3 + 2 = 5
2. 1 2 3 4 5 6 7 — 4 + 2 = 6
3. 1 2 3 4 5 6 7 — 1 + 2 = 3
4. 1 2 3 4 5 6 7 — 5 + 2 = 7

Vocabulary

If needed, share the meaning of the words with students:
add: Combine numbers to find the sum.
sum: The total when two or more numbers are added.

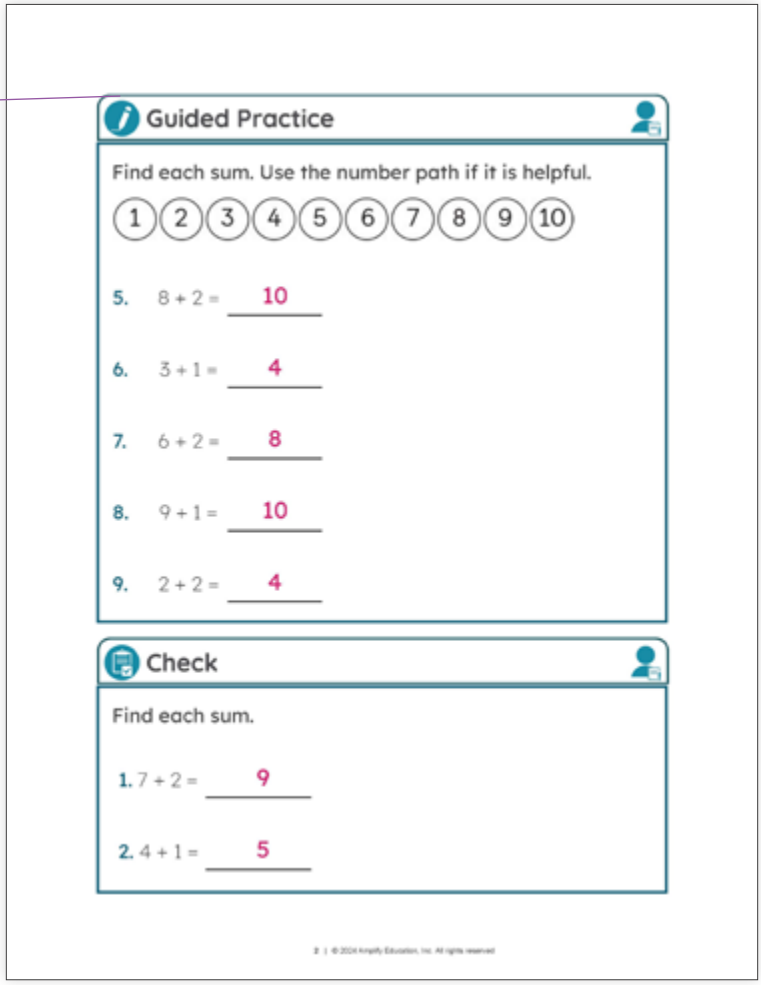
Adding 1 and 2

Teacher's Guide | ML 1.08

Guided Practice

A Provide students with connecting cubes to represent the addition equations and find the sum.

Key Takeaway:
Say, "Making connections between addition and the count sequence can help to build fluency with adding 1 and 2."



Guided Practice

Find each sum. Use the number path if it is helpful.

1 2 3 4 5 6 7 8 9 10

5. 8 + 2 = 10
6. 3 + 1 = 4
7. 6 + 2 = 8
8. 9 + 1 = 10
9. 2 + 2 = 4

Check

Find each sum.

1. 7 + 2 = 9
2. 4 + 1 = 5

Reflection

Ask:
- "How can you add 2 to any number?"
- "What strategy was the most helpful when finding the sum of the addition equations?"

Check: Recommended Next Steps

Almost there	**Got it!**
If students need more support, consider using Mini-Lesson 1.07: *Adding 1*.	If students need more practice, present students with addition expressions and ask students to find the sum. 4 + 2 7 + 1 5 + 2

Name _____ Date _____

Determining if Addition Equations are True

ML 1.09

Modeled Review

Name: Han

Circle to show if the equation is *true* or *false*.

$9 = 6 + 1$

6 and 1 more is 7. 7 is not equal to 9, so the equation is false.

Name: Jada

Circle to show if the equation is true or false.

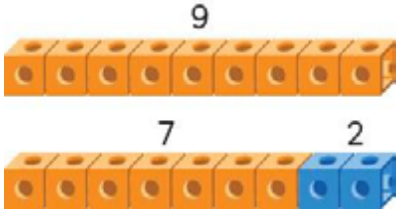
$3 + 1 = 2 + 2$

3 and 1 more is 4. 2 and 2 more is 4. 4 and 4 are the same, so the equation is true.

Guided Practice

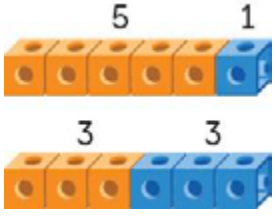
Circle to show if each equation is *true* or *false*.

1.



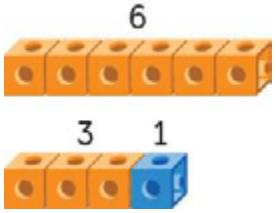
$9 = 7 + 2$

2.



$5 + 1 = 3 + 3$

3.



$6 = 3 + 1$

Guided Practice

Circle to show if each equation is *true* or *false*.

4. 4 + 4 = 2 + 5

5. 8 = 3 + 4

6. 3 + 7 = 5 + 5

7. 10 = 9 + 1

Check

Circle to show if each equation is *true* or *false*.

1. 3 + 2 = 5 + 1

2. 7 = 4 + 3

Goal

Determine if addition equations containing at least one expression are true or false.

Standard

1.OA.D.7

Materials

two-color counters, highlighters (optional)

Modeled Review

Point to Han's and Jada's work and **ask:**

- "What is the value of each side of the equation, 9 = 6 + 1? Are these two values equal?"
- "What is the value of each side of the equation, 3 + 1 = 2 + 2?" Are these two values equal?"

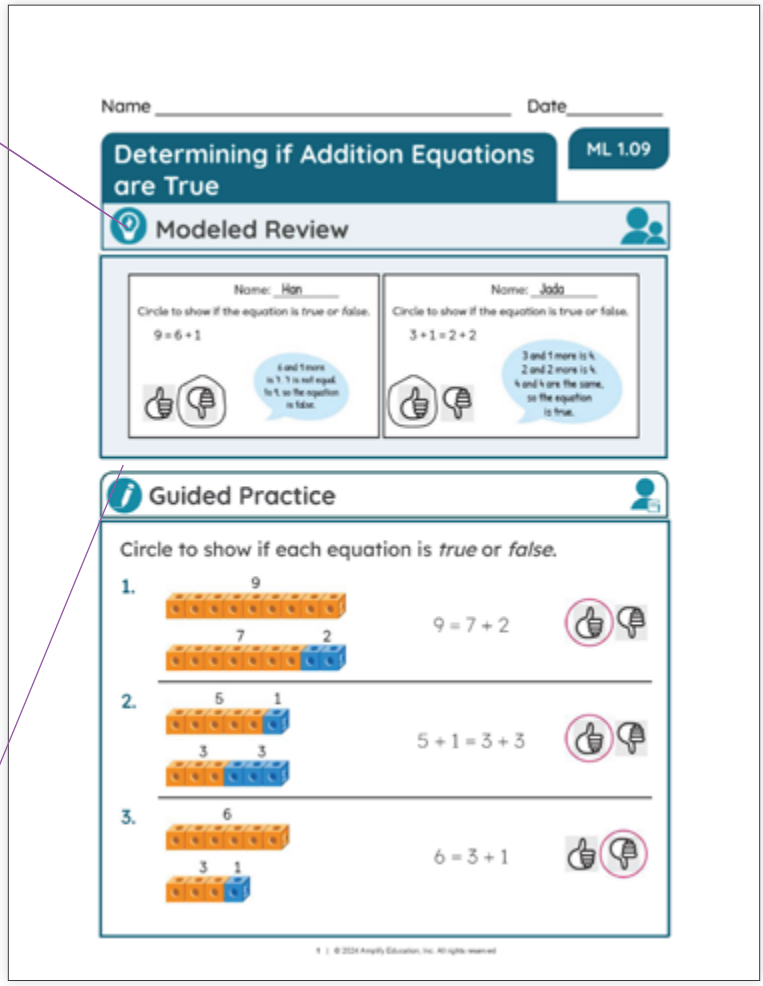
Reinforce Han's and Jada's thinking by saying, "True equations have the same value on each side of the equal sign, while false equations have different values."

ML/EL Provide students with two-color counters to visually represent both equations.

Guided Practice

For each problem, focus students' attention on determining if the equations are true or false.

Encourage students to touch and count the cubes represented on each side of the equal sign to determine if they represent the same amount.


Name _____ Date _____

Determining if Addition Equations are True

ML 1.09

Modeled Review

Name: Han

Circle to show if the equation is true or false.

9 = 6 + 1

Name: Jada

Circle to show if the equation is true or false.

3 + 1 = 2 + 2

Guided Practice

Circle to show if each equation is *true* or *false*.

1. 9 = 7 + 2

2. 5 + 1 = 3 + 3

3. 6 = 3 + 1

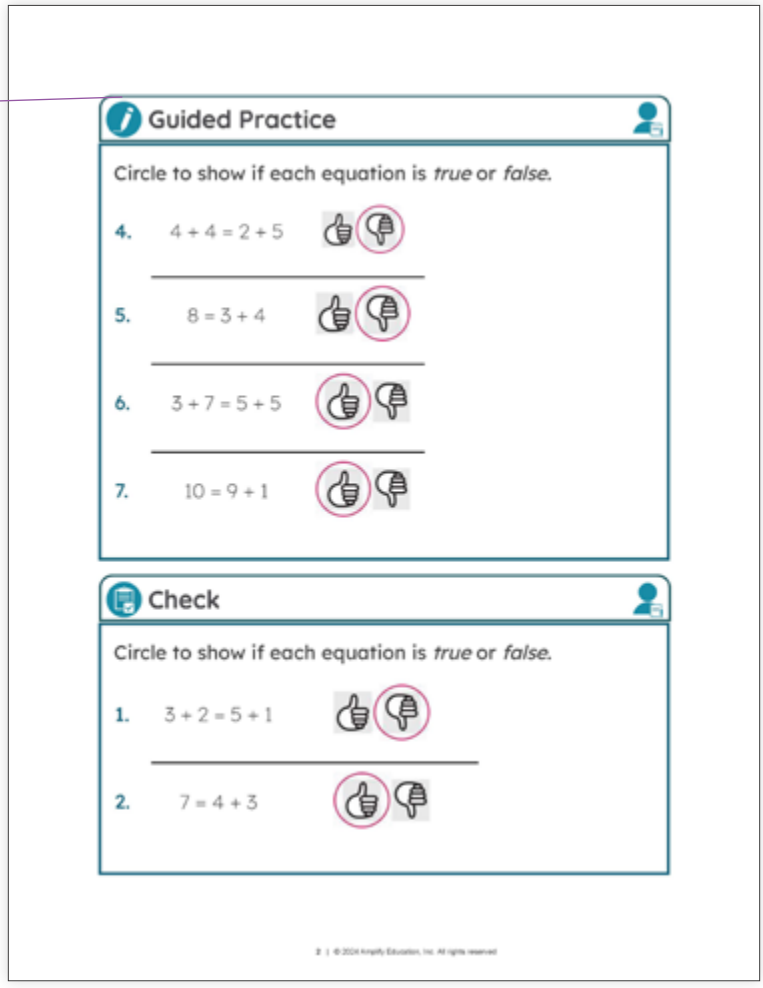
Vocabulary

If needed, share the meaning of the words with students:
equal: The same amount.
equation: A math statement showing that the values on each side of the equal sign are the same.

Guided Practice

A Highlight or circle each side of the equation.

Key Takeaway:
Say, "An equation is true if the value of the expression on both sides of the equal sign are the same."



Reflection

Ask:
- "How do you know an equation is true?"
- "What questions do you still have after today's learning?'

Check: Recommended Next Steps

Almost there	**Got it!**
If students need more support, present students with addition equations. Ask students to represent both sides of the equal sign using two-color counters and determine if the equations are true or false.	If students need more practice, present students with addition equations and ask students to determine if the equations are true or false. 4 + 1 = 3 + 2 8 = 5 + 2 4 + 5 = 6 + 2

Name _____ Date _____

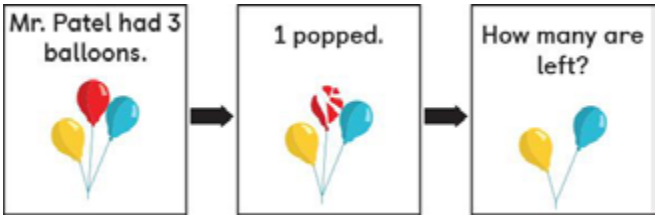
Representing and Solving Subtraction Story Problems

ML 1.10

Modeled Review

Name: Shawn

Use the story to complete the problem.



expression: 3 – 1

difference: 2

Guided Practice

Use the story to solve each problem. If it is helpful, use cubes to act out the story problems.

1. Diego had 4 bananas. He ate 2. How many bananas are left?

   2 bananas

2. Clare had 5 apples. She ate 1. How many apples are left?

   4 apples

Guided Practice

Write an expression to match each story. Then solve to find the difference. If it is helpful, use cubes to act out the story problems.

3. Shawn had 6 toy cars. He gave 3 to his friends. How many toy cars does Shawn have left?

   expression: 6 – 3 **difference:** 3 cars

4. Priya wants to read 9 books. She has read 5. How many books does she still have to read?

   expression: 9 – 5 **difference:** 4 books

5. Ms. Hernandez had 8 pencils. She gave 2 to Han. How many pencils does she have left?

   expression: 8 – 2 **difference:** 6 pencils

Check

Use the story to solve the problem. Write an expression to match the story.

There were 10 fish. 3 swam away. How many fish did not swim away?

expression: 10 – 3 **difference:** 7 fish

Goal

Represent and solve story problems with subtraction expressions.

Standard

1.OA.A.1

Materials

connecting cubes

Modeled Review

Point to Shawn's work and **ask:**

- "How many balloons did Mr. Patel have at the beginning? Where is that number in Shawn's expression?"
- "How many balloons popped? Where is that number in Shawn's expression?"
- "How many balloons were left?"

Reinforce Shawn's thinking by saying, "You can represent a subtraction story problem with objects and an expression to help you understand the story and find the difference."

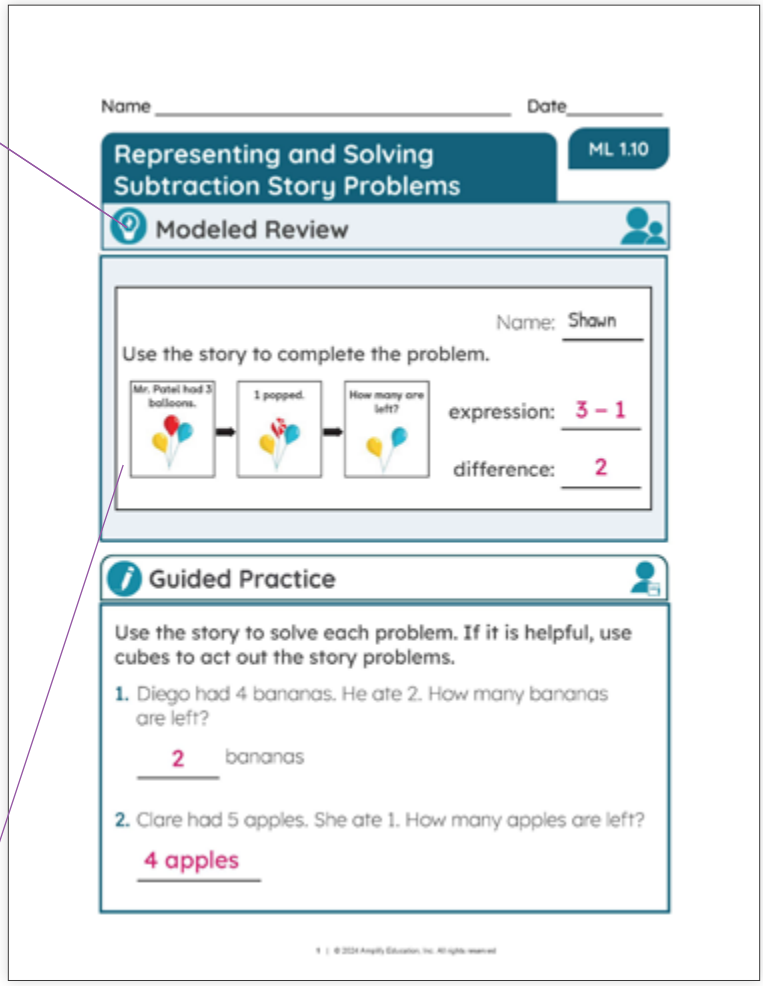
ML/EL Invite students to represent the story problems using cubes.

Guided Practice

For each problem, focus students' attention on representing the story problem to find the difference.

To scaffold their thinking, **ask:**

- "What is the story problem asking?"
- "What is the difference?"



Name _____ Date _____

Representing and Solving Subtraction Story Problems

ML 1.10

Modeled Review

Name: Shawn

Use the story to complete the problem.

expression: 3 – 1

difference: 2

Guided Practice

Use the story to solve each problem. If it is helpful, use cubes to act out the story problems.

1. Diego had 4 bananas. He ate 2. How many bananas are left?

2 bananas

2. Clare had 5 apples. She ate 1. How many apples are left?

4 apples

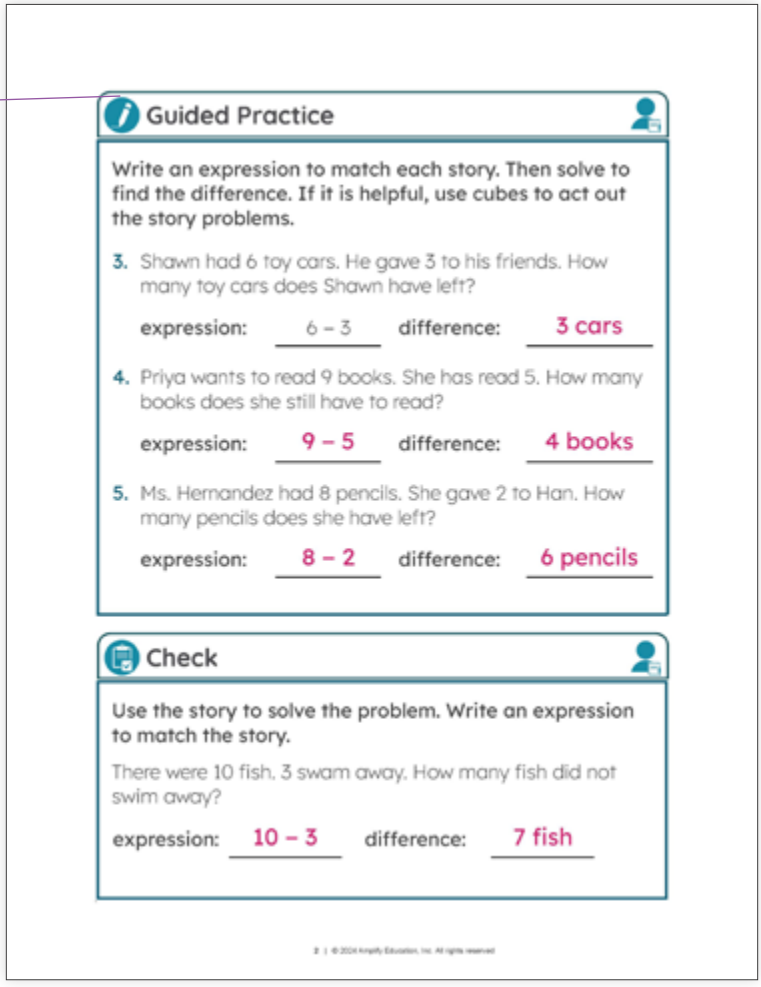
Vocabulary

If needed, share the meaning of the words with students:
difference: The value when one number is subtracted from another.
expression: A mathematical phrase with numbers and symbols.
subtract: Find the difference between numbers.

Guided Practice

A Provide students with connecting cubes to represent the story problem and find the difference.

Key Takeaway:
Say, "Subtraction can be represented with stories, objects, pictures, and expressions."



Guided Practice

Write an expression to match each story. Then solve to find the difference. If it is helpful, use cubes to act out the story problems.

3. Shawn had 6 toy cars. He gave 3 to his friends. How many toy cars does Shawn have left?
   expression: 6 – 3 difference: 3 cars
4. Priya wants to read 9 books. She has read 5. How many books does she still have to read?
   expression: 9 – 5 difference: 4 books
5. Ms. Hernandez had 8 pencils. She gave 2 to Han. How many pencils does she have left?
   expression: 8 – 2 difference: 6 pencils

Check

Use the story to solve the problem. Write an expression to match the story.

There were 10 fish. 3 swam away. How many fish did not swim away?

expression: 10 – 3 difference: 7 fish

Reflection

Ask:
- "How can you use tools or drawings to represent subtraction story problems?"
- "Reflect on your learning today. What were you most proud of?"

Check: Recommended Next Steps

Almost there	**Got it!**
If students need more support, consider using Kindergarten Mini-Lesson 4.06: *Representing Subtraction With Objects*.	If students need more practice, present students with the subtraction story problem. Ask students to represent with counters and write a matching expression. Priya had 8 cookies. She ate 3. How many cookies does she have left?

Name _____ Date _____

Subtracting 1

ML 1.11

Modeled Review

Name: Priya

Find the difference.

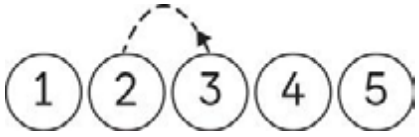
4 − 1 = 3

6 − 1 = 5

6, 5. I counted back 1 so the answer is 5.

Guided Practice

Find each difference.

1. 

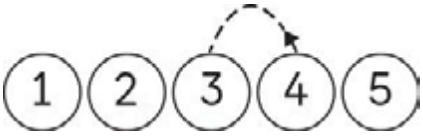
3 − 1 = 2

2. 

5 − 1 = 4

3. 

2 − 1= 1

4. 

4 − 1 = 3

Name _____ Date _____

Subtracting 1

ML 1.11

Modeled Review

Name: Priya

Find the difference.

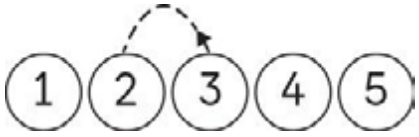
4 − 1 = 3

6 − 1 = 5

6, 5. I counted back 1 so the answer is 5.

Guided Practice

Find each difference.

1. 

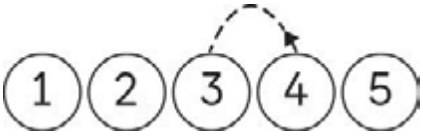
3 − 1 = 2

2. 

5 − 1 = 4

3. 

2 − 1= 1

4. 

4 − 1 = 3

Subtracting 1

Teacher's Guide | ML 1.11

Goal

Find the difference when subtracting 1.

Standard

1.OA.C.5

Materials

connecting cubes

Modeled Review

Point to Priya's work and **ask:**

- "How did Priya find the difference for 4 – 1?"
- "How did she find the difference for 6 – 1?"
- "What do you notice about both expressions?"

Reinforce Priya's thinking by saying, "To find the difference between a number and 1, you can count back 1."

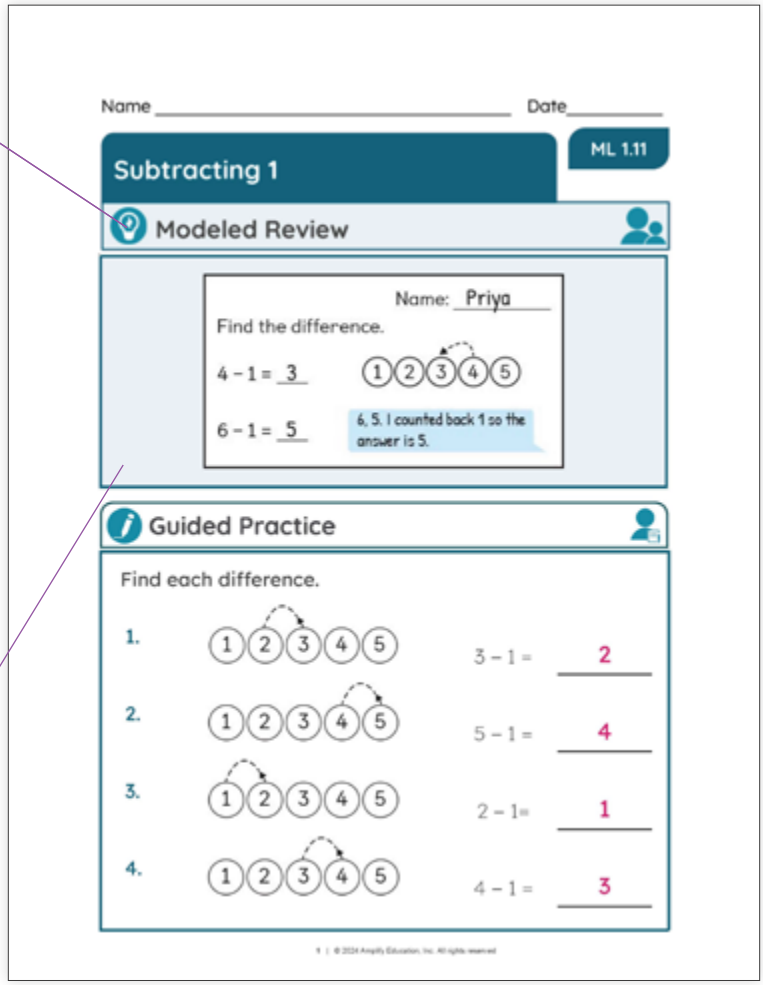
ML/EL Invite students to share what strategy they will use to find the differences.

Guided Practice

For each problem, focus students' attention on finding the difference of each equation.

To scaffold their thinking, **say:**

- "If it is helpful, you can use the number path to find the difference by touching the first number in the equation and counting back one."
- "You can also count back to find the difference."


Name _____ Date _____

Subtracting 1 — ML 1.11

Modeled Review

Name: Priya

Find the difference.

4 – 1 = 3

6 – 1 = 5

6, 5. I counted back 1 so the answer is 5.

Guided Practice

Find each difference.

1. 3 – 1 = 2
2. 5 – 1 = 4
3. 2 – 1 = 1
4. 4 – 1 = 3

Vocabulary

If needed, share the meaning of the words with students:
difference: The value when one number is subtracted from another.
equation: A math statement showing that the values on each side of the equal sign are the same.
subtract: Find the difference between numbers.

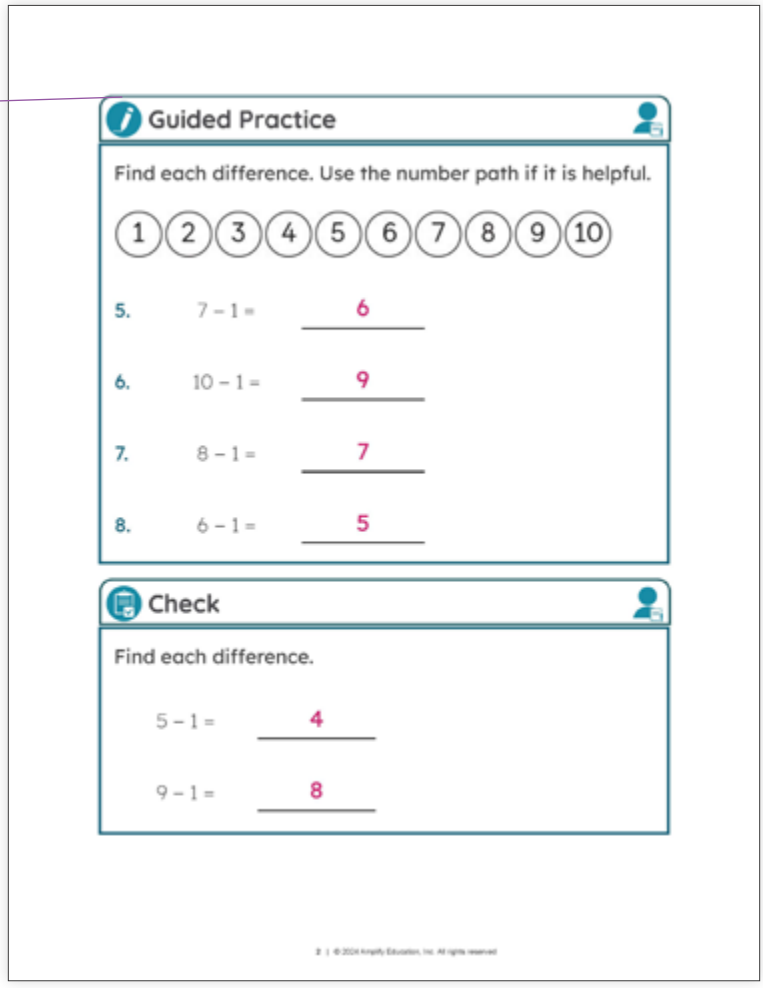
Subtracting 1

Teacher's Guide | ML 1.11

Guided Practice

A Provide students with connecting cubes to represent the story problem and find the difference.

Key Takeaway:
Say, "Counting back 1 is the same as subtracting 1."



Guided Practice

Find each difference. Use the number path if it is helpful.

1 2 3 4 5 6 7 8 9 10

5. 7 – 1 = 6

6. 10 – 1 = 9

7. 8 – 1 = 7

8. 6 – 1 = 5

Check

Find each difference.

5 – 1 = 4

9 – 1 = 8

Reflection

Ask:
- "How can counting help you find the difference when subtracting 1?"
- "What questions do you still have?"

Check: Recommended Next Steps

Almost there	**Got it!**
If students need more support, consider using Kindergarten Mini-Lesson 4.06: *Representing Subtraction With Objects*.	If students need more practice, present students with subtraction expressions and ask students to find the difference. 7 – 1 3 – 1 10 – 1

Name _____ Date _____

Subtracting 1 and 2

ML 1.12

Modeled Review

Name: Jada

Find the difference.

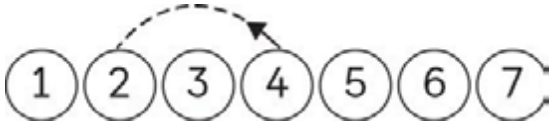
8 – 2 6

4 – 1 3

4, 3. I counted back one so the answer is 3.

Guided Practice

Find each difference.

1. 

4 – 2 = 2

2. 

7 – 2 = 5

3. 

3 – 2 = 1

4. 

5 – 2 = 3

Guided Practice

Find each difference. Use the number path if it is helpful.

1 2 3 4 5 6 7 8 9 10

5. 6 – 2 = 4

6. 8 – 1 = 7

7. 10 – 2 = 8

8. 7 – 1 = 6

9. 7 – 2 = 5

Check

Find each difference.

9 – 2 = 7

5 – 1 = 4

Subtracting 1 and 2

Teacher's Guide **ML 1.12**

Goal

Find the difference when subtracting 1 or 2.

Standard

1.OA.C.5

Materials

connecting cubes

Modeled Review

Point to Jada's work and **ask:**

- "How did Jada find the difference for 8 – 2? How else could she have found this difference?"
- "How did Jada find the difference for 4 – 1? How else could she have found this difference?"

Reinforce Jada's thinking by saying, "When subtracting 2 from a number, you can use what you know about subtracting 1. You can count back to subtract 1 and then subtract 1 again, or you can count back 2."

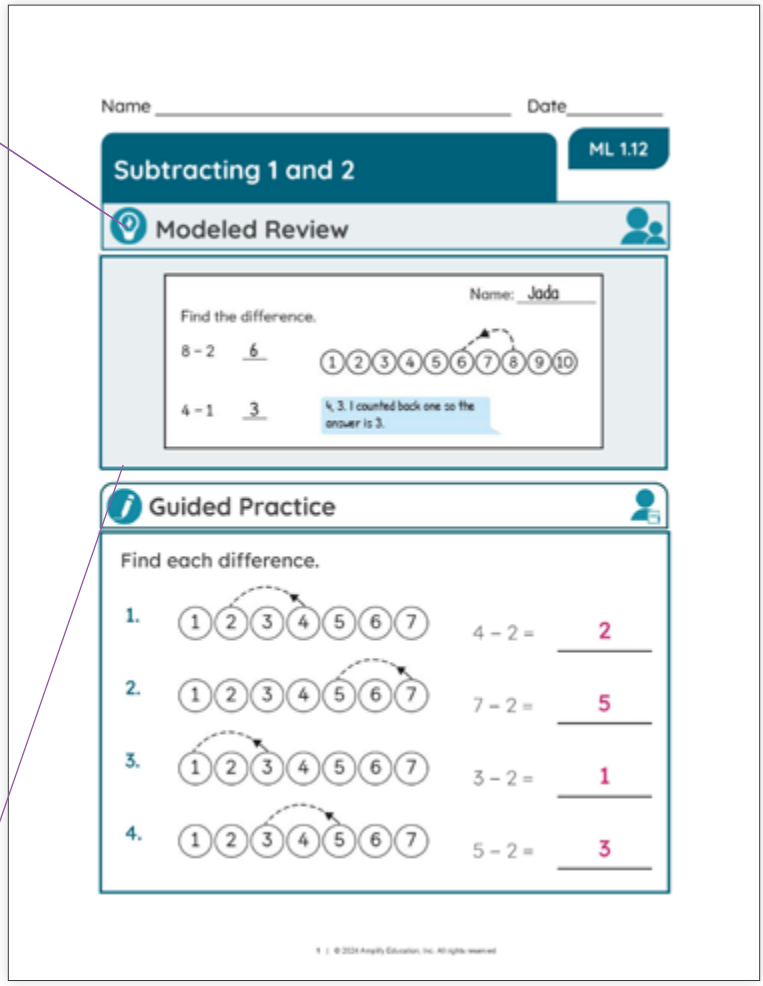
ML/EL Model using the number path to solve each expression by touching the minuend and moving your finger one or two numbers to the left.

Guided Practice

For each problem, focus students' attention on finding the difference of each equation.

To scaffold their thinking, **say:**

- "Number paths are one strategy you can use to find the difference."
- "You can also use other strategies, like counting back.


Name _____ Date _____

Subtracting 1 and 2 ML 1.12

Modeled Review

Name: Jada

Find the difference.

8 – 2 6

4 – 1 3

4, 3. I counted back one so the answer is 3.

Guided Practice

Find each difference.

1. 4 – 2 = 2
2. 7 – 2 = 5
3. 3 – 2 = 1
4. 5 – 2 = 3

Vocabulary

If needed, share the meaning of the words with students.
difference: The value when one number is subtracted from another.
subtract: Find the difference between numbers.

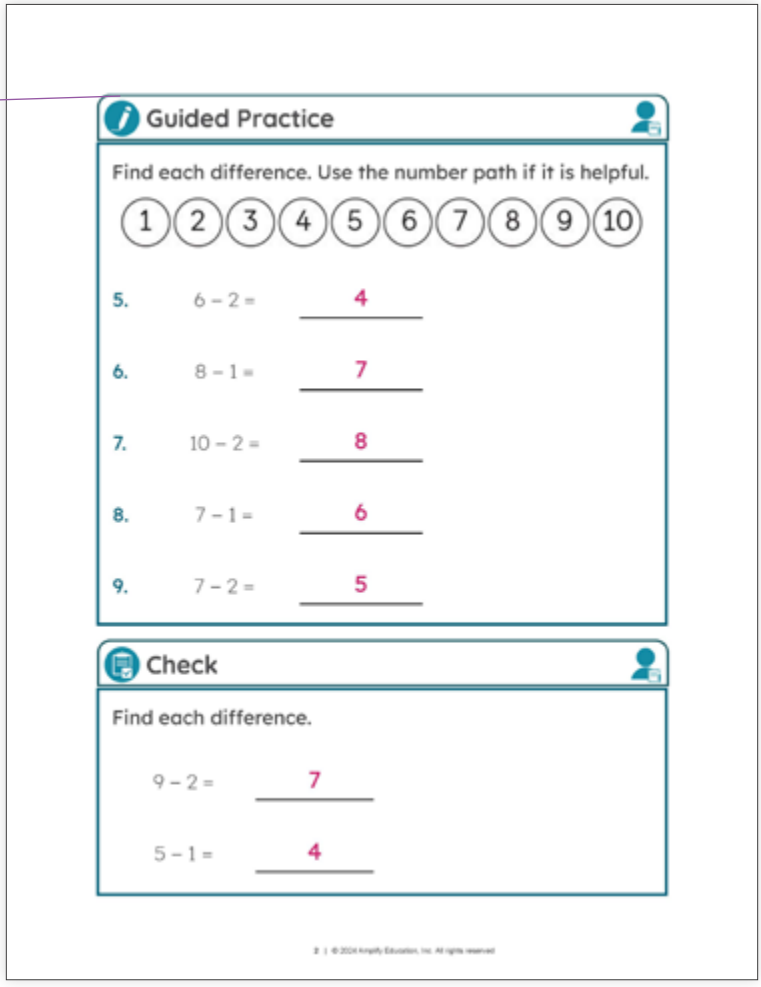
Subtracting 1 and 2

Teacher's Guide | ML 1.12

Guided Practice

A Provide students with connecting cubes to represent the subtraction equations and find the difference.

Key Takeaway:
Say, "You can use what you know about counting and the order of numbers to subtract 2. To subtract, you can count back 2 or think of the number that comes 2 before when counting."



Guided Practice

Find each difference. Use the number path if it is helpful.

1 2 3 4 5 6 7 8 9 10

5. 6 – 2 = 4
6. 8 – 1 = 7
7. 10 – 2 = 8
8. 7 – 1 = 6
9. 7 – 2 = 5

Check

Find each difference.

9 – 2 = 7

5 – 1 = 4

Reflection

Ask:
- "How can you use counting to subtract?"
- "What strategy was helpful today?"

Check: Recommended Next Steps

Almost there	**Got it!**
If students need more support, consider using Mini-Lesson 1.11: *Subtracting 1*.	If students need more practice, present students with a subtraction expression and ask them to find the difference. 8 – 2 4 – 1 6 – 2

Name _____ Date_____

Interpreting Data Represented With Tally Marks

ML 1.13.A

Modeled Review

Name: Dylan

Students voted for their favorite instrument. Complete the table using the tally chart.

Votes for Favorite Sport

drums	piano	guitar
𝍸	||	|||

Instrument	Total Votes
drums	5
piano	2
guitar	3

Guided Practice

Students voted for their favorite sport. Complete the table using the tally chart.

Votes for Favorite Sport

soccer	football	basketball
||||	||	𝍸 |

Sport	Total votes
soccer	4
football	2
basketball	6

Guided Practice

1. Students voted for their favorite animal. Complete the table using the tally chart.

Votes for Favorite Animal

dog	cat	fish
𝍸 | | |	𝍸	| |

Animal	Total votes
dog	8
cat	4
fish	2

Use the data from Problem 2. Circle to show if each statement is *true* or *false*.

2. More students voted for cats than dogs.

3. Fewer students voted for fish than cats.

Check

1. Students voted for their favorite animal. Complete the table using the tally chart.

Votes for Favorite Subject

reading	math	science
| | |	𝍸 | |	𝍸

Subject	Total votes
reading	3
math	7
science	4

Use the data from problem 1. Circle to show if each statement is *true* or *false*.

2. There are 7 votes for math.

3. More students voted for reading than science.

Goal	Standard
Interpret a tally chart to determine whether statements about data are true or false.	1.MD.C.4

Modeled Review

Point to Dylan's work and **ask:**

- "Where in the tally chart did Dylan find the number of votes for drums? Piano? Guitar?"
- "Why is there a diagonal line across the tallies under the drum category?"

Reinforce Dylan's thinking by saying, "Tally marks are recorded in groups of 5. Every fifth tally mark goes across the other 4, so it is clear that there are 5 marks in all."

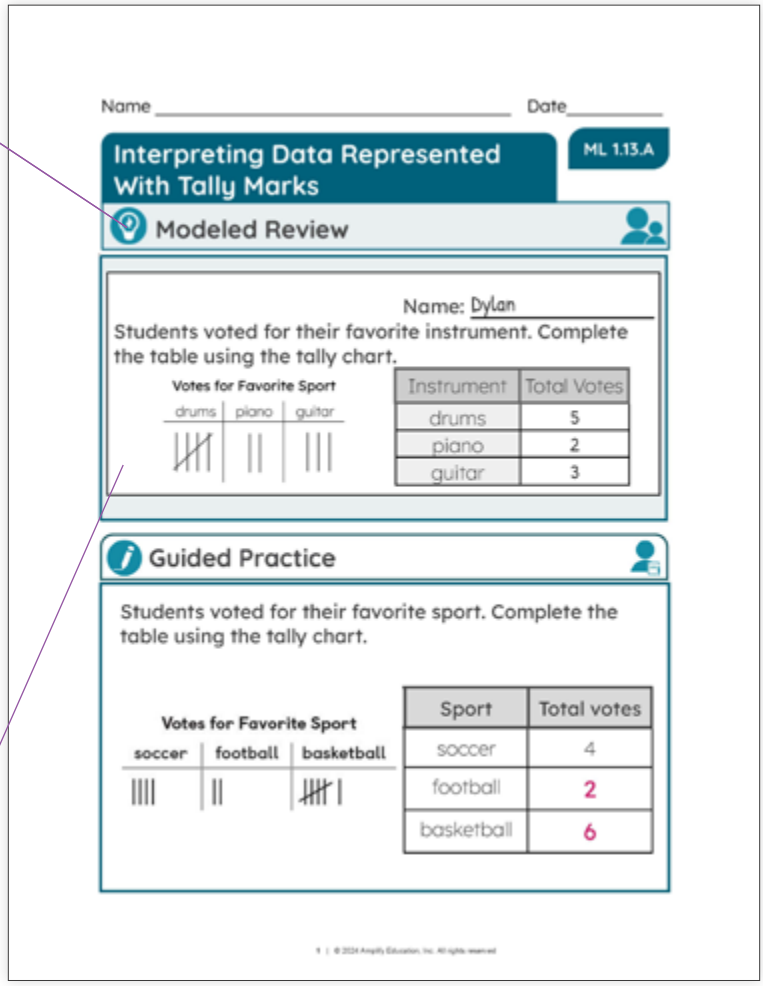
ML/EL Model verifying the amount in each category by touching and counting each tally aloud.

Guided Practice

For each problem, focus students' attention on using the tally marks to help complete the table.

To scaffold their thinking, **ask:**

- "What three categories did students vote for"
- "How many votes did soccer get? Football? Basketball?"



Name _____ Date _____

Interpreting Data Represented With Tally Marks

ML 1.13.A

Modeled Review

Name: Dylan

Students voted for their favorite instrument. Complete the table using the tally chart.

Votes for Favorite Sport

drums | piano | guitar

Instrument	Total Votes
drums	5
piano	2
guitar	3

Guided Practice

Students voted for their favorite sport. Complete the table using the tally chart.

Votes for Favorite Sport

soccer | football | basketball

Sport	Total votes
soccer	4
football	2
basketball	6

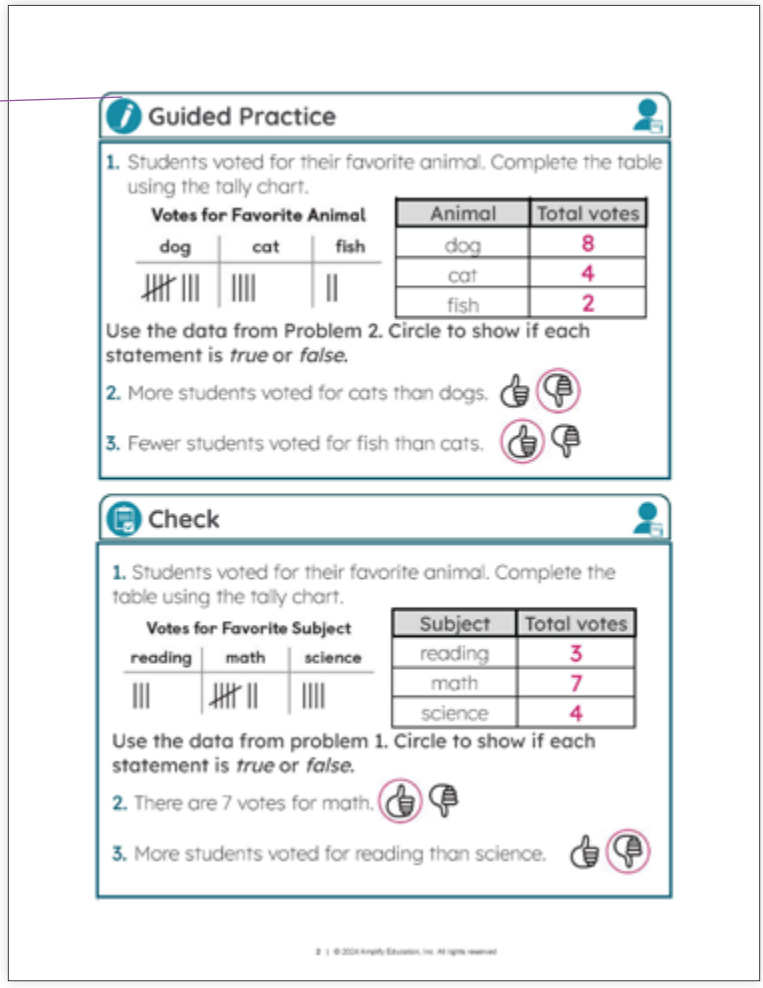
Vocabulary

If needed, share the meaning of the words with students:
add: Combine numbers to find the sum.
data: Information about things or people in a group.
sum: The total when two or more numbers are added.

Guided Practice

A Chunk this task into smaller, more manageable parts by having students start by converting the tally marks to numbers.

Key Takeaway:
Say, "Data representations, like tally charts, can be interpreted using counting and addition to find how many in each category or how many in more than 1 category."



Guided Practice

1. Students voted for their favorite animal. Complete the table using the tally chart.

Votes for Favorite Animal

dog	cat	fish
𝍸 |||	𝍸	||

Animal	Total votes
dog	8
cat	4
fish	2

Use the data from Problem 2. Circle to show if each statement is *true* or *false*.

2. More students voted for cats than dogs.

3. Fewer students voted for fish than cats.

Check

1. Students voted for their favorite animal. Complete the table using the tally chart.

Votes for Favorite Subject

reading	math	science
|||	𝍸 ||	𝍸

Subject	Total votes
reading	3
math	7
science	4

Use the data from problem 1. Circle to show if each statement is *true* or *false*.

2. There are 7 votes for math.

3. More students voted for reading than science.

Reflection

Ask:
- "Why might someone want to use tally marks to organize their data?"
- "Thinking about today's learning, what are you most proud of?"

Check: Recommended Next Steps

Almost there
If students need more support, consider using Mini-Lesson 1.04: *Creating and Interpreting Data Representations*.

Got it!
If students need more practice, share the following statements about the data displayed in the Modeled Review. Have students respond using a thumbs up or thumbs down if the statements are true or false.

- More students voted for piano than guitar.
- Fewer students voted for piano than drums.

Name _____ Date_____

Representing Data as Addition Equations

ML 1.13.B

Modeled Review

Name: Shawn

The students voted for their favorite recess activity.

Votes for Favorite Recess Activity

swing	hopscotch	slide
𝍸 |	||	𝍸

Write an equation to represent the number of votes for swing and slide.

6 + 5 = 11

Guided Practice

The students voted for their favorite sea animal.

Votes for Favorite Sea Animal

whale	octopus	dolphin
|||	||||	𝍸 |

1. Write an equation to represent the number of votes for octopus and dolphin.

   4 + 6 = 10

2. Write an equation to represent the number of votes for whale and octopus.

   3 + 4 = 7

Guided Practice

Students voted for their favorite farm animal.

Votes for Favorite Farm Animal

cow	pig	goat
𝍸	𝍸 ||	||

3. Use the tally chart to complete the table. Write an equation to find the total number of votes for each pair of animals.

Farm animal	Equation	Total votes
cow and goat	4 + 2 = 6	6
pig and goat	7 + 2 = 9	9
cow and pig	4 + 7 = 11	11

Check

The students voted for their preferred class pet.

Votes for Favorite Class Pet

goldfish	rabbit	hamster
𝍸	|||	𝍸 |

Write an equation to represent the number of votes for goldfish and hamster.

4 + 6 = 10 or 6 + 4 = 10

Goal

Interpret a tally chart and represent the sum of two categories of data with an equation.

Standard

1.MD.C.4

Modeled Review

Point to Shawn's work and **ask:**

- "Which categories did Shawn look at to determine there were 11 votes altogether?"
- "How did Shawn know he needed to add?"
- "Why did he not include the hopscotch votes in his answer?"

Reinforce the goal by saying, "You can add tally marks from two categories to help you interpret data."

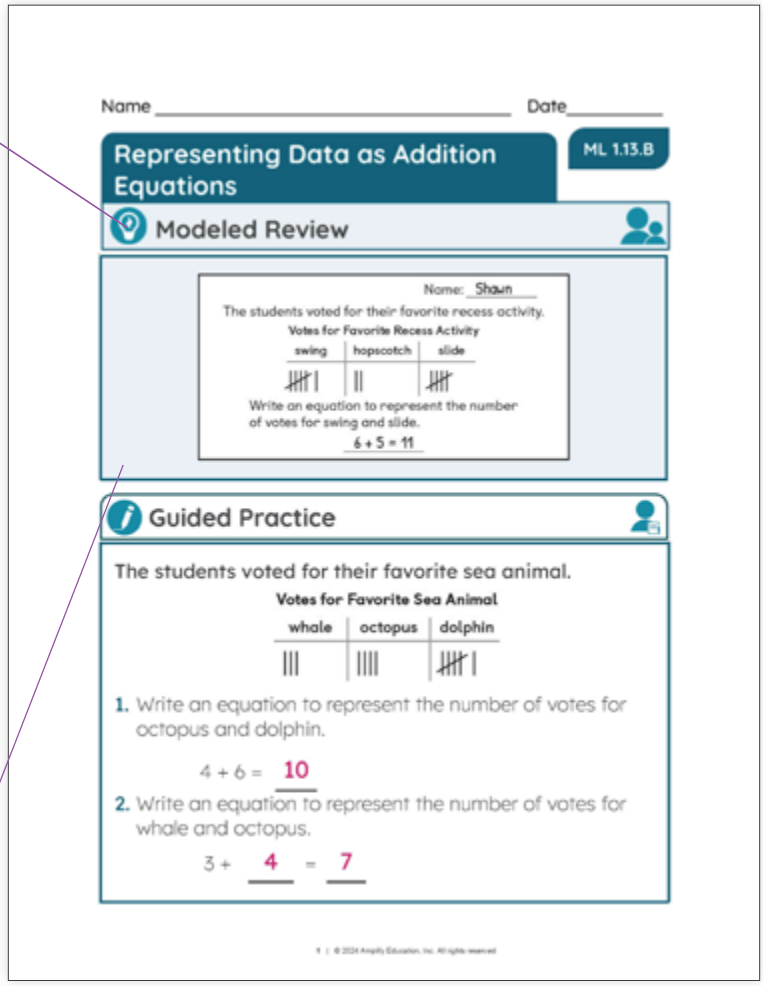
ML/EL Show the connection between words and symbols by highlighting the word "and" in the question and the plus sign in the equation.

Guided Practice

For each problem, focus students' attention on representing the data using addition equations.

To scaffold their thinking, **ask:**

- "Where in the tally chart can you find the number of votes for each animal?"
- "How many students voted for the cow? Pig? Goat?"



Name _____ Date _____

Representing Data as Addition Equations ML 1.13.B

Modeled Review

Name: Shawn

The students voted for their favorite recess activity.

Votes for Favorite Recess Activity

swing	hopscotch	slide
𝍸 |	||	𝍸

Write an equation to represent the number of votes for swing and slide.

6 + 5 = 11

Guided Practice

The students voted for their favorite sea animal.

Votes for Favorite Sea Animal

whale	octopus	dolphin
|||	||||	𝍸 |

1. Write an equation to represent the number of votes for octopus and dolphin.

4 + 6 = 10

2. Write an equation to represent the number of votes for whale and octopus.

3 + 4 = 7

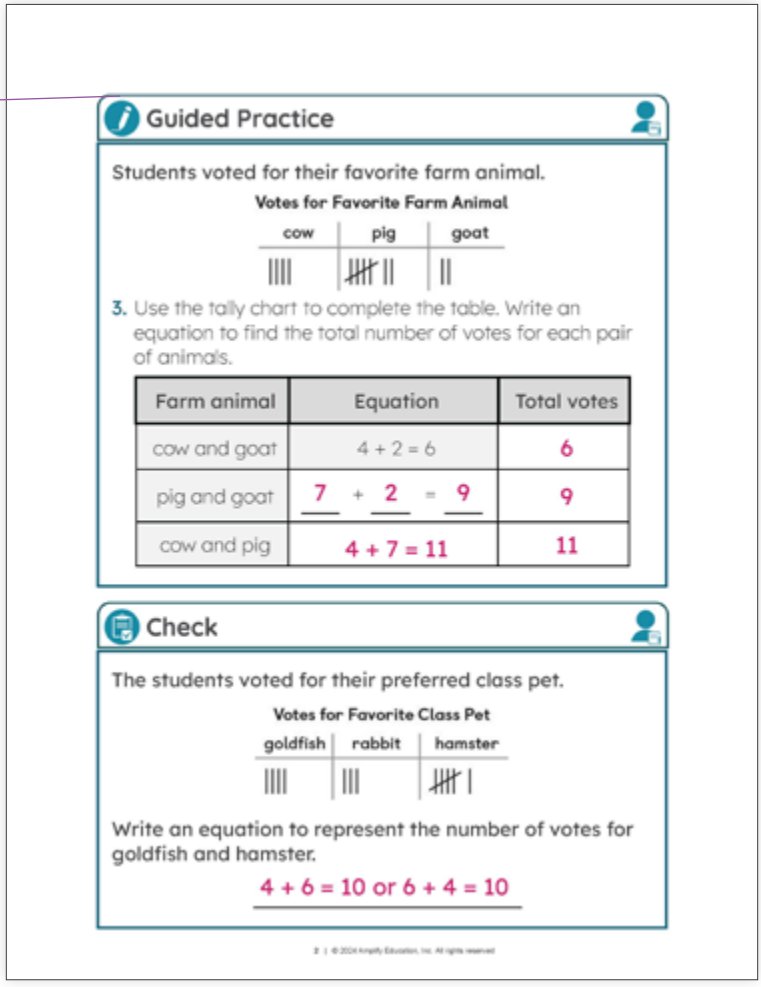
Vocabulary

If needed, share the meaning of the words with students.
add: Combine numbers to find the sum.
data: Information about things or people in a group.
sum: The total when two or more numbers are added.

Guided Practice

A Chunk this task into smaller, more manageable parts by having students start by converting the tally marks to numbers.

Key Takeaway:
Say, "You can represent data with addition equations to describe how many are in more than 1 category."



Guided Practice

Students voted for their favorite farm animal.

Votes for Favorite Farm Animal

cow	pig	goat
||||	|||| ||	||

3. Use the tally chart to complete the table. Write an equation to find the total number of votes for each pair of animals.

Farm animal	Equation	Total votes
cow and goat	4 + 2 = 6	6
pig and goat	7 + 2 = 9	9
cow and pig	4 + 7 = 11	11

Check

The students voted for their preferred class pet.

Votes for Favorite Class Pet

goldfish	rabbit	hamster
||||	|||	|||| |

Write an equation to represent the number of votes for goldfish and hamster.

4 + 6 = 10 or 6 + 4 = 10

Reflection

Ask:
- "Why might someone want to add the amounts in 2 categories of data?"
- "What made sense in today's learning?"

Check: Recommended Next Steps

Almost there
If students need more support, consider using Mini-Lesson 1.13.A: *Interpreting Data Represented With Tally Marks*.

Got it!
If students need more practice, have students use the tally chart in the Modeled Review to write an equation that represents the number of votes for the following recess activities.

- swing and hopscotch
- hopscotch and slide

Name _____ Date _____

Writing and Explaining Statements About Data

ML 1.14

Modeled Review

Name: Tristan

Jada made a tally chart to show how many times she saw different vehicles.

Vehicles Jada Saw

bus	truck	car
||	|||	𝍸 |

Write a true statement that describes the sum of 2 categories.

Jada saw 9 cars and trucks.

Guided Practice

Han made a tally chart to show the animals he saw at the zoo.

Animals Han Saw at the Zoo

zebra	monkey	giraffe
||||	𝍸 ||	|||

Fill in the blank to make each statement true.

1. Han saw 11 zebras and monkeys.
2. Han saw 7 zebras and giraffes.
3. Han saw 10 monkeys and giraffes.

Guided Practice

Diego made a tally chart to show the insects he saw.

Insects Diego Saw

butterfly	grasshopper	ladybug
𝍸 |	𝍸	||

4. Write a *true* statement that describes the sum of 2 categories. Sample response shown.

Diego saw 6 grasshoppers and ladybugs.

Check

Clare made a tally chart to show her friends' favorite colors.

Votes for Favorite Color

pink	green	blue
𝍸	|||	𝍸

Write a *true* statement that describes the sum of 2 categories. Sample response shown.

7 friends voted for pink or green.

Goal	Standard
Write statements to describe the sum of two categories of data.	1.MD.C.4

Modeled Review

Point to Han's work and **ask:**

- "Which two categories is the statement about?"
- "How do you know the statement is true?"

Reinforce Han's thinking by saying, "Statements about data might be *true* or *false*, and, sometimes, you may not have enough information to know."

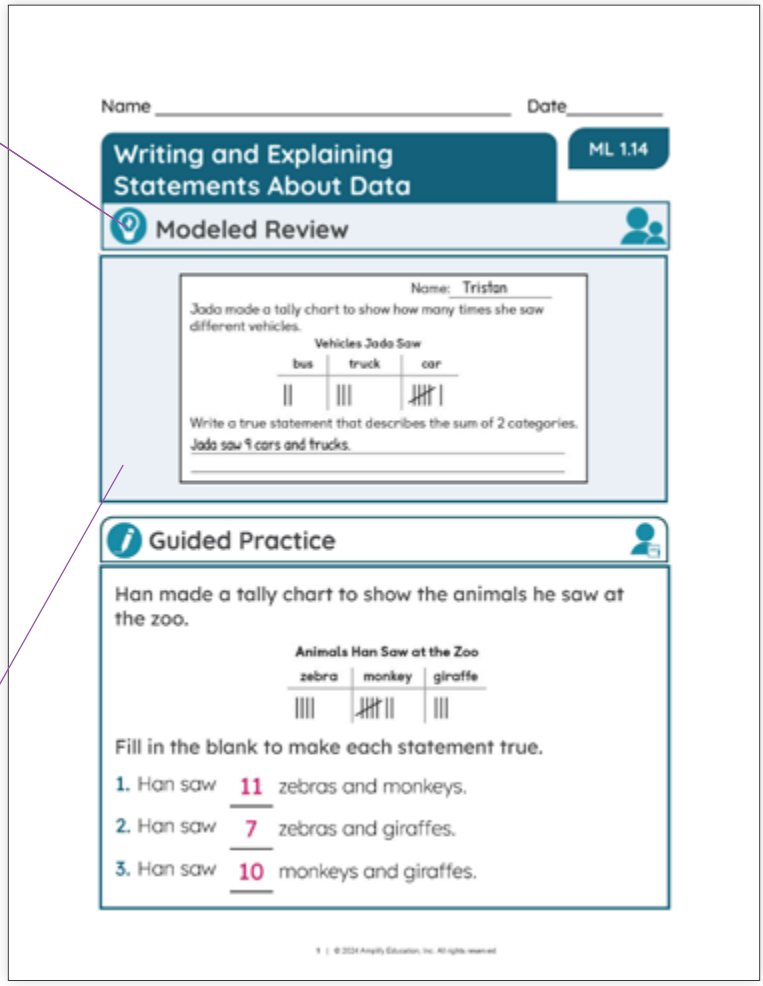
ML/EL Model verifying that the statement is true by touching and counting each tally in the car and truck categories.

Guided Practice

For each problem, focus students' attention on using the data to generate true statements.

To scaffold their thinking, **ask:**

- "Where in the tally chart can you find the information to make the statement true?"
- "How is each sum determined?"



Name _____ Date _____

Writing and Explaining Statements About Data

ML 1.14

Modeled Review

Name: Tristan

Jada made a tally chart to show how many times she saw different vehicles.

Vehicles Jada Saw

bus	truck	car
II	III	IIII

Write a true statement that describes the sum of 2 categories.

Jada saw 9 cars and trucks.

Guided Practice

Han made a tally chart to show the animals he saw at the zoo.

Animals Han Saw at the Zoo

zebra	monkey	giraffe
IIII	IIII II	III

Fill in the blank to make each statement true.

1. Han saw 11 zebras and monkeys.
2. Han saw 7 zebras and giraffes.
3. Han saw 10 monkeys and giraffes.

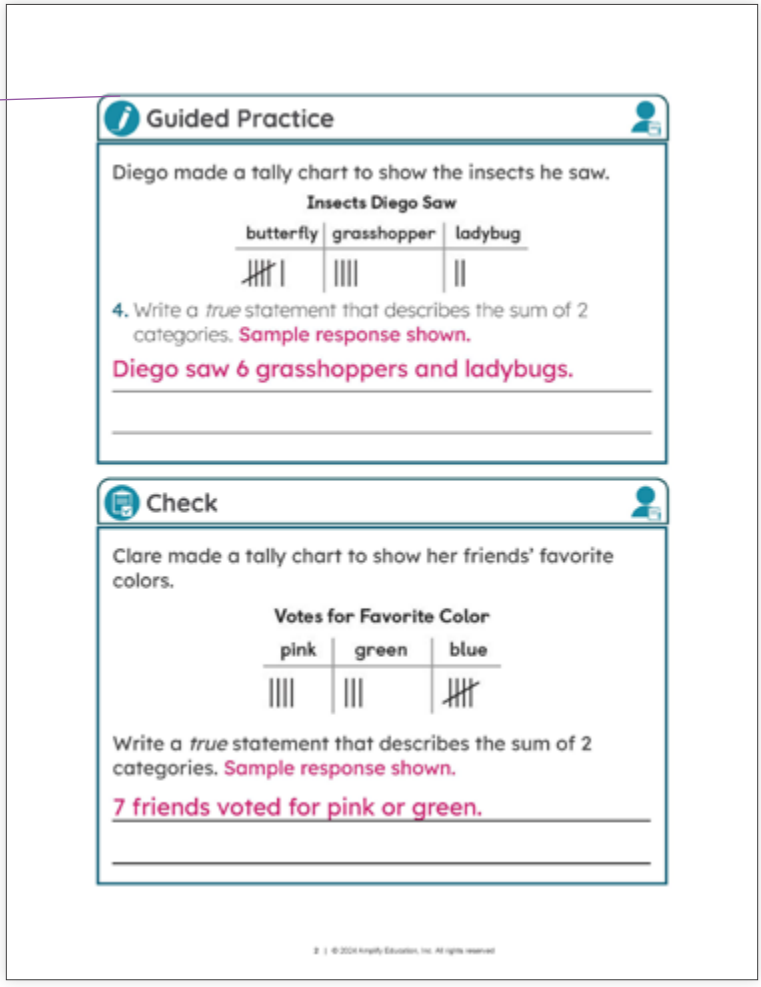
Vocabulary

If needed, share the meaning of the words with students.
data: Information about things or people in a group.
equation: A math statement showing that the values on each side of the equal sign are the same.
sum: The total when two or more numbers are added.

Guided Practice

A Chunk this task into smaller, more manageable parts by having students start by converting the tally marks to numbers.

Key Takeaway:
Say, "In order to be sure that a statement about data is true, you must be able to prove it with information from the data representations."



Guided Practice

Diego made a tally chart to show the insects he saw.

Insects Diego Saw

butterfly	grasshopper	ladybug
𝍸 I	𝍸	II

4. Write a *true* statement that describes the sum of 2 categories. Sample response shown.

Diego saw 6 grasshoppers and ladybugs.

Check

Clare made a tally chart to show her friends' favorite colors.

Votes for Favorite Color

pink	green	blue
𝍸	𝍸 I	𝍸

Write a *true* statement that describes the sum of 2 categories. Sample response shown.

7 friends voted for pink or green.

Reflection

Ask:
- "How can you prove to someone else that your statements are true?"
- "What was confusing about today's learning? What made sense?"

Check: Recommended Next Steps

Almost there	**Got it!**
If students need more support, consider using Mini-Lesson 1.13.B: *Representing Data as Addition Equations*.	If students need more practice, have students use the tally chart in the Modeled Review to write true statements that describe the sum of the following categories. • buses and trucks • buses and cars

Name _____ Date_____

Selecting Which Questions Can Be Answered Using Data

ML 1.15

Modeled Review

Can the question be answered using the data in the tally chart?

Insects Priya Saw

ant	ladybug	butterfly
𝍸 ||	|||	||||

What is Priya's favorite insect?

No, because it shows the number of insects, not favorite insects.

Guided Practice

Han made a tally chart for the rides he went on at the fair.

Rides Han Went on at the Fair

bumper car	carousel
𝍸 |	|||

Circle to show if each question can be answered using the data.

1. How many times did Han ride the carousel?

2. Did Han have fun at the fair?

Guided Practice

Clare made a tally chart to show the number of animals she saw on the farm.

Animals Clare Saw on the Farm

cow	goat	pig
𝍸	𝍸 |	|||

Circle to show if each question can be answered using the data. If the question can be answered, write the answer on the line.

3. Which animal did Clare like the best?

_____

4. How many cows and pigs did Clare see?

7

Check

Diego made a tally chart to show the number of vehicles he saw.

Vehicles Diego Saw

car	truck	bus
𝍸 ||	𝍸	||

Circle to show if the question can be answered using the data.

1. How many trucks and buses did Diego see?

2. How fast did the trucks drive?

Goal	Standard
Determine if questions can be answered using data represented in tally charts.	1.OA.C.5

Modeled Review

Point to the problem in the Modeled Review and **ask:**

- "Why can't the question about Priya's favorite insect be answered?"
- "What is a question that can be answered using this data?"

Reinforce the goal by saying, "To determine if a question can be answered, it can be helpful to look at the title and categories, which tell you what the tally data is about."

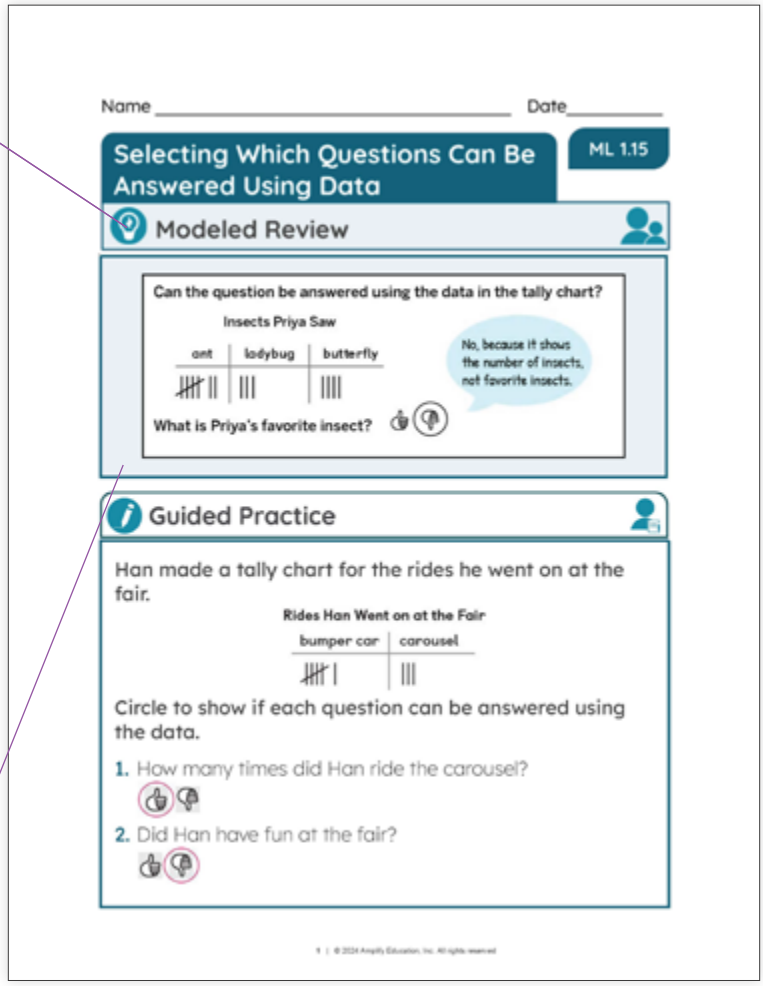
ML/EL Model thinking aloud about ways to determine whether or not a question can be answered with the available data.

Guided Practice

For each problem, focus students' attention on determining if a question can be answered using the data.

To scaffold their thinking, **ask:**

- "Can you tell how many times Han rode the carousel? How many?"
- "Can you use this data to tell whether Han had fun? Why not?"



Name _____ Date _____

Selecting Which Questions Can Be Answered Using Data

ML 1.15

Modeled Review

Can the question be answered using the data in the tally chart?

Insects Priya Saw

ant	ladybug	butterfly
7	3	4

No, because it shows the number of insects, not favorite insects.

What is Priya's favorite insect?

Guided Practice

Han made a tally chart for the rides he went on at the fair.

Rides Han Went on at the Fair

bumper car	carousel
6	3

Circle to show if each question can be answered using the data.

1. How many times did Han ride the carousel?
2. Did Han have fun at the fair?

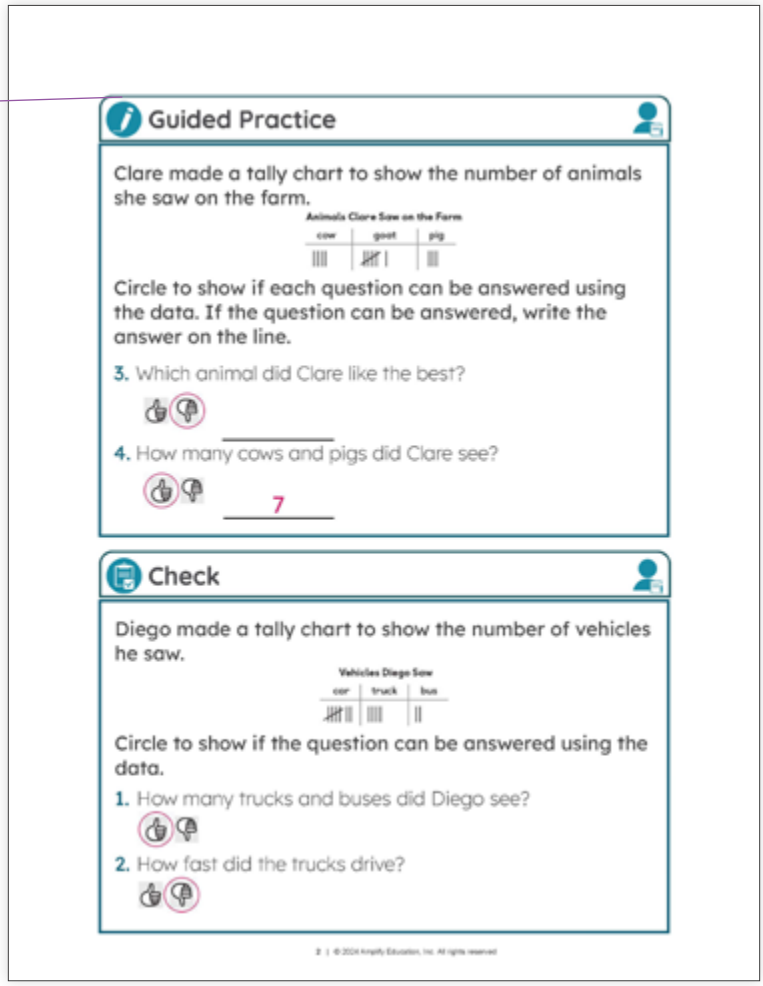
Vocabulary

If needed, share the meaning of the word with students.
data: Information about things or people in a group.

Guided Practice

A Chunk this task into smaller, more manageable parts by having students talk with a partner to analyze the data presented by determining which questions can be answered.

Key Takeaway:
Say, "One way to make sense of a data representation is to ask questions about the data. Before asking questions about data, it can be helpful to consider what the data representation is about, including what is known and unknown."



Guided Practice

Clare made a tally chart to show the number of animals she saw on the farm.

Animals Clare Saw on the Farm

cow	goat	pig
4	6	3

Circle to show if each question can be answered using the data. If the question can be answered, write the answer on the line.

3. Which animal did Clare like the best?

4. How many cows and pigs did Clare see?

7

Check

Diego made a tally chart to show the number of vehicles he saw.

Vehicles Diego Saw

car	truck	bus
7	4	2

Circle to show if the question can be answered using the data.

1. How many trucks and buses did Diego see?

2. How fast did the trucks drive?

Reflection

Ask:
- "What is important to think about when making sense of data?"
- "What questions do you still have?"

Check: Recommended Next Steps

Almost there	**Got it!**
If students need more support, consider using Mini-Lesson 1.14: *Writing and Explaining Statements about Data*.	If students need more practice, ask if the following questions can be answered using the data from the Modeled Review. Have students show a thumbs up or thumbs down if they could answer the question. • How many ants did Priya see? • Did Priya see more ladybugs or spiders?

GRADE 1

Centers

The following section includes a selection of Center Resources. Centers are engaging hands-on, 15-minute games for students to play collaboratively to strengthen their understanding of key skills and concepts. Centers appear in instruction as part of instructional activities, lesson differentiation, and daily Centers time (K–1 only).

Counting Collections

Students count collections and then represent how many and how they counted.

GRADE K	**Stage 1**	Sort and Count
	Stage 2	Up to 20
GRADE 1	**Stage 3**	Up to 99
	Stage 4	Estimate and Count up to 120

Counting Collections

Stage	Materials	Differentiation
Stage 1 Sort and Count **(GRADE K)**	• Directions, Recording Sheet (Centers Resources) • 5-frames (Manipulative Kit) • collections of objects (up to 10) (Classroom materials)	**Support** • Provide categories for the sort. • Have students organize and count the objects using 5-frames. • Encourage students to reference the *5-Frame Reference Chart* when representing the quantity. **Stretch** Encourage students to sort the same collection in different ways.
Stage 2 Up to 20 **(GRADE K)**	• Directions, Recording Sheet (Centers Resources) • 5-frames, 10-frames (Manipulative Kit) • collections of objects (up to 20) (Classroom materials)	**Support** • Have students organize and count the objects using 10-frames. • Encourage students to reference the *5-Frame Reference Chart* or the *Teen Number Reference Chart* when representing the quantity. **Stretch** • Have each player independently determine the quantity of the collection and then discuss if they counted the same number and how they counted. • Have students determine the quantities of collections of 10 or more objects.
Stage 3 Up to 99 **(GRADE 1)**	• Directions, Recording Sheet (Centers Resources) • 10-frames (Manipulative Kit) • collections of objects (up to 99), cups (Classroom materials)	**Support** • Omit the Recording Sheet. • Encourage students to count the objects in different ways. **Stretch** Have each player independently count the objects in the collection and then discuss if they counted the same number.

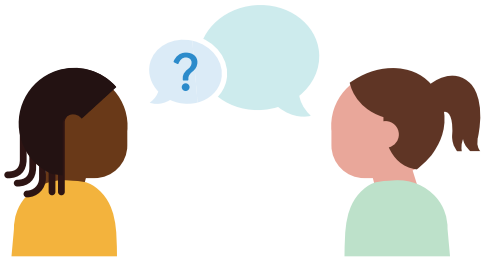
Counting Collections (continued)

Stage	Materials	Differentiation
Stage 4 Estimate and Count up to 120 **(GRADE 1)**	• Directions, Recording Sheet **(Centers Resources)** • 10-frames **(Manipulative Kit)** • collections of objects (99–120), cups or paper plates **(Classroom materials)**	**Support** • Omit the Recording Sheet. • Encourage students to count the objects in different ways. **Stretch** Have each player independently count the objects in the collection and then discuss if they counted the same number.

Counting Collections

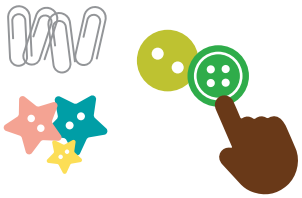
Stage 1

1



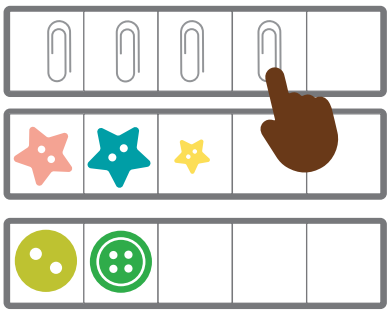
Talk with your partner about how to sort the objects.

2



Sort the objects into groups.

3



Count each group.

4

Record how many you counted. Choose a new collection and repeat.

Let's sort, count, and show how many.

Pairs

You'll need . . .

5-frames

collection of objects (up to 10)

Recording Sheet

Name _____ Date _____

CENTER
Recording Sheet

Counting Collections

Stage 1

How many are there in each group? Show how you counted.

CENTER
Directions

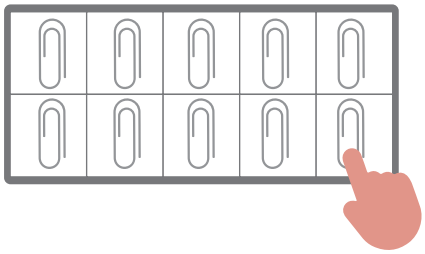
Counting Collections

Stage 2

1

Talk with your partner about how to count the objects.

2

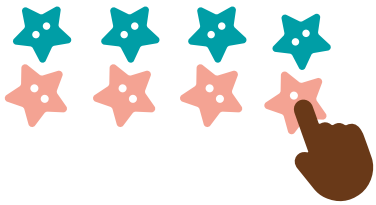


Count the objects together.

3

Record how many you counted.

4



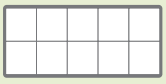
Choose a new collection and repeat.

Let's count and show how many.

Pairs

You'll need . . .

5-frames



10-frames

collection of objects (up to 20)

Recording Sheet

Name _____ Date _____

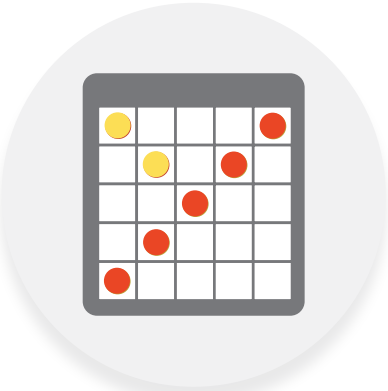
CENTER
Recording Sheet

Counting Collections

Stage 2

How many are there? Show how you counted.

Cover Up



Students take turns generating numbers and placing counters on a board. The first partner to fill a row, column, or diagonal wins.

GRADE 1	**Stage 1**	Add 1 or 2
	Stage 2	Subtract 1 or 2
	Stage 3	Make 10
	Stage 4	Doubles
	Stage 5	Near Doubles
	Stage 6	Add 7, 8 or 9
	Stage 7	Add or Subtract 10
	Stage 8	Add Within 100 Without Composing
	Stage 9	Add Within 100 With Composing
GRADE 2	**Stage 10**	Add Within 1,000 Without Composing
GRADES 2,3	**Stage 11**	Add Within 1,000 With Composing
GRADE 3	**Stage 12**	Factors 1–5 and 10
	Stage 13	Factors 1–9
	Stage 14	Three Factors
GRADE 4	**Stage 15**	Two-digit Factors

Cover Up

Stage	Materials	Differentiation
Stage 1 Add 1 or 2 **(GRADE 1)**	• Directions, Gameboards A and B (one per player), Number Cards, 0–9 (Centers Resources) • two-color counters (Manipulative Kit)	**Support** • Have students use addition strategies, such as counting all, counting on, or relating addition to counting. • Provide students with access to 10-frames and either counters or cubes to represent the expressions. **Stretch** Encourage students to be strategic when adding 1 or 2 to cover a preferred number.
Stage 2 Subtract 1 or 2 **(GRADE 1)**	• Directions, Gameboards A and B (one per player), Number Cards, 2–10 (Centers Resources) • two-color counters (Manipulative Kit)	**Support** • Have students use subtraction strategies, such as representing all and then removing, counting back, or relating subtraction to counting. • Provide students with access to 10-frames and either counters or cubes to represent the expressions. **Stretch** Encourage students to be strategic when subtracting 1 or 2 to cover a preferred number.
Stage 3 Make 10 **(GRADE 1)**	• Directions, Gameboards A and B (one per player), Number Cards, 0–10 (Centers Resources) • two-color counters (Manipulative Kit)	**Support** • Have students use addition strategies, such as counting all, counting on, or relating addition to counting. • Provide students with access to 10-frames and either counters or cubes to make 10. **Stretch** Encourage students to be strategic when covering the sum.

Cover Up (continued)

Stage	Materials	Differentiation
Stage 4 Doubles **(GRADE 1)**	• Directions, Gameboards A and B (one per player), Number Cards, 0–10 (Centers Resources) • two-color counters (Manipulative Kit)	**Support** • Provide students with access to 10-frames and either counters or cubes to represent the expressions. **Stretch** Encourage students to be strategic when covering the sum.
Stage 5 Near Doubles **(GRADE 1)**	• Directions, Gameboards A and B (one per player), Number Cards, 0–10 (Centers Resources) • two-color counters (Manipulative Kit)	**Support** • Have students think of near doubles as doubles plus one. Encourage students to draw number bonds to help them with this thinking. • Provide students with access to 10-frames and either counters or cubes to represent the expressions. **Stretch** Encourage students to be strategic when covering the sum.
Stage 6 Add 7, 8 or 9 **(GRADE 1)**	• Directions, Gameboards A and B (one per player), Number Cards, 0–10 (Centers Resources) • two-color counters (Manipulative Kit)	**Support** • Have students use addition strategies, such as counting all, counting on, or relating addition to counting. • Provide students with access to 10-frames and either counters or cubes to represent the expressions. **Stretch** Encourage students to be strategic when adding 7, 8, or 9 to cover a preferred number.

Cover Up (continued)

Stage	Materials	Differentiation
Stage 7 Add or Subtract 10 **(GRADE 1)**	• Directions, Gameboards A and B (one per player), Number Cards, Multiples of 10 (Centers Resources) • two-color counters (Manipulative Kit)	**Support** Have students use addition strategies, such as skip counting and counting on. **Stretch** Encourage students to add or subtract a multiple of 10 to cover a preferred number.
Stage 8 Add Within 100 Without Composing **(GRADE 1)**	• Directions, Gameboards A and B (one per player), Recording Sheet (Centers Resources) • base-ten units, two-color counters (Manipulative Kit)	**Support** • Have students record their expressions and show their work to find the sums. • Have students use Gameboard A to add a one-digit number and a two-digit number. **Stretch** Have students use Gameboard B to add 2 two-digit numbers.
Stage 9 Add Within 100 With Composing **(GRADE 1)**	• Directions, Gameboards A and B (one per player), Recording Sheet (Centers Resources) • base-ten units, two-color counters (Manipulative Kit)	**Support** • Have students record their expressions and show their work to find the sums. • Have students use Gameboard A to add a one-digit number and a two-digit number. **Stretch** Have students use Gameboard B to add 2 two-digit numbers.

Cover Up (continued)

Stage	Materials	Differentiation
Stage 10 Add Within 1,000 Without Composing **(GRADE 2)**	• Directions, Gameboards A and B, Recording Sheet (Centers Resources) • base-ten units, two-color counters (Manipulative Kit)	**Support** • Have students record their expressions and show their work to find the sums. • Have students use Gameboard A to add a two-digit number and a three-digit number. **Stretch** Have students use Gameboard B to add 2 three-digit numbers.
Stage 11 Add Within 1,000 With Composing **(GRADES 2, 3)**	• Directions, Gameboards A and B, Recording Sheet (Centers Resources) • base-ten units, two-color counters (Manipulative Kit)	**Support** • Have students record their expressions and show their work to find the sums. • Have students use Gameboard A to add a two-digit number and a three-digit number. **Stretch** Have students use Gameboard B to add 2 three-digit numbers.
Stage 12 Factors 1–5 and 10 **(GRADE 3)**	• Directions, Gameboards A and B, Recording Sheet (Centers Resources) • base-ten units, two-color counters (Manipulative Kit)	**Support** • Have students use multiplication strategies, such as using manipulatives, equal groups, or skip counting. • Have students record their strategies to find the products. **Stretch** Encourage students to be strategic when multiplying to cover a preferred number.

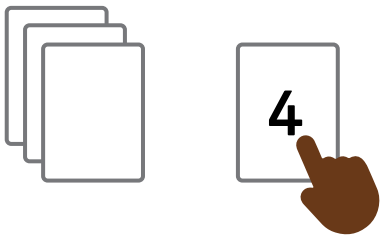
Cover Up (continued)

Stage	Materials	Differentiation
Stage 13 Factors 1–9 **(GRADE 3)**	• Directions, Gameboards A and B, Recording Sheet (Centers Resources) • base-ten units, two-color counters (Manipulative Kit)	**Support** • Have students use multiplication strategies, such as using manipulatives, equal groups, or skip counting. • Have students record their strategies to find the products. **Stretch** Encourage students to be strategic when multiplying to cover a preferred number.
Stage 14 Three Factors **(GRADE 3)**	• Directions, Gameboards A and B, Recording Sheet (Centers Resources) • base-ten units, two-color counters (Manipulative Kit)	**Support** • Encourage students to use the associative property to multiply the numbers in an order that makes the most sense to them. • Have students record their expressions in an order that makes the most sense to them. **Stretch** Encourage students to be strategic when multiplying to cover a preferred number.
Stage 15 Two-digit Factors **(GRADE 4)**	• Directions, Gameboards A and B, Recording Sheet (Centers Resources) • base-ten units, two-color counters (Manipulative Kit)	**Support** • Encourage students to show their work when multiplying. • Have students use different multiplication strategies. **Stretch** Encourage students to be strategic when multiplying to cover a preferred number.

Cover Up

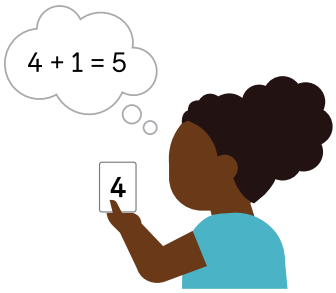
Stage 1

1



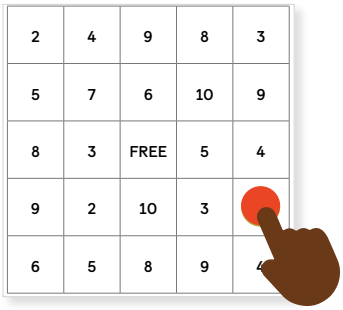
Draw a card.

2



Add 1 or 2. Tell your partner which you choose.

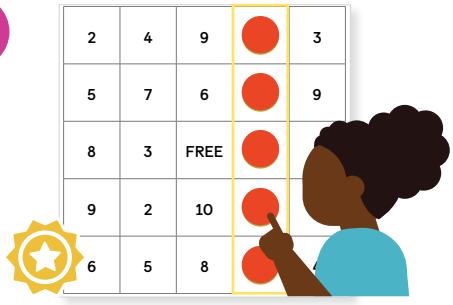
3



2	4	9	8	3
5	7	6	10	9
8	3	FREE	5	4
9	2	10	3	
6	5	8	9	

Cover the sum.

4



2	4	9		3
5	7	6		9
8	3	FREE		
9	2	10		
6	5	8		

Take turns and repeat. The first player to cover 5 in a row wins.

Let's add 1 or 2.

Pairs

You'll need . . .

counters

Number Cards, 0–9

Gameboard A or B

CENTER
Gameboard A

Cover Up

Stage 1

2	4	9	8	3
5	7	6	10	9
8	3	FREE	5	4
9	2	10	3	7
6	5	8	9	4

Cover Up

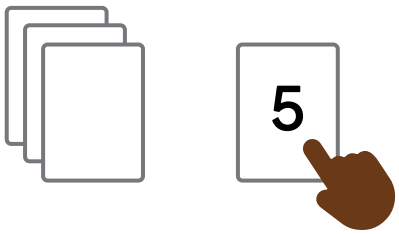
Stage 1

8	9	8	5	2
5	2	3	7	4
8	10	FREE	6	9
9	3	5	10	8
4	7	4	9	3

Cover Up

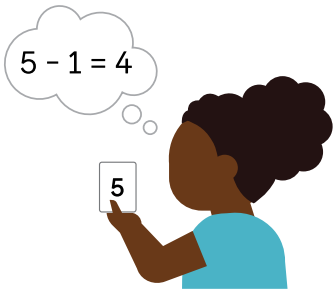
Stage 2

1



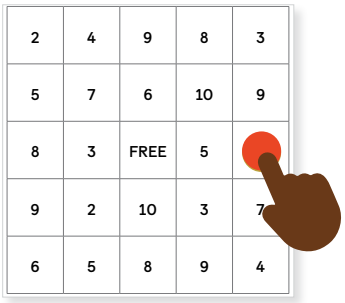
Draw a card.

2



Subtract 1 or 2. Tell your partner which you choose.

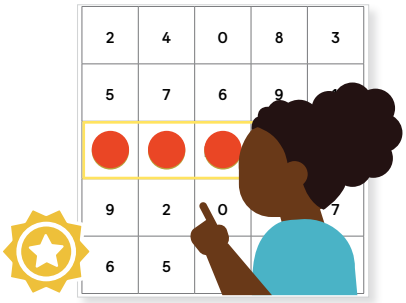
3



2	4	9	8	3
5	7	6	10	9
8	3	FREE	5	
9	2	10	3	7
6	5	8	9	4

Cover the difference.

4



2	4	0	8	3
5	7	6	9	
9	2	0		7
6	5			

Take turns and repeat. The first player to cover 5 in a row wins.

Let's subtract 1 or 2.

Pairs

You'll need . . .

Number Cards, 2–10

counters

Gameboard A or B

Cover Up

Stage 2

2	4	0	8	3
5	7	6	9	1
8	3	FREE	5	4
9	2	0	3	7
6	5	8	1	4

Cover Up

Stage 2

8	1	8	5	2
5	2	3	7	4
8	9	FREE	6	0
1	3	5	0	8
4	7	4	9	3

Find the Pair

Students work with number cards to build addition and subtraction fluency.

GRADE K **Stage 1** Make 5

GRADE 1 **Stage 2** Make 10

Find the Pair

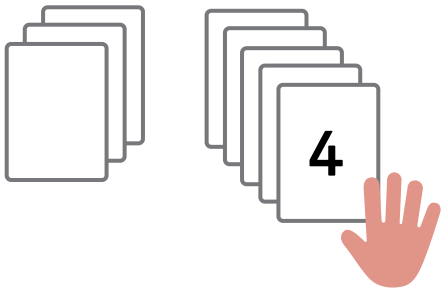
Stage	Materials	Differentiation
Stage 1 Make 5 **(GRADE K)**	• Directions, Recording Sheet, Number Cards, 0–5 (Centers Resources)	**Support** • Provide students with access to 5-frames and either counters or cubes to use as a visual reference. • Omit the Recording Sheet. **Stretch** Have students use Number Cards, 0–10 to play a new round in which they find the pair that makes 10.
Stage 2 Make 10 **(GRADE 1)**	• Directions, Recording Sheet, Number Cards, 0–10 (Centers Resources)	**Support** • Provide students with access to 10-frames and either counters or cubes to use as a visual reference. • Omit the Recording Sheet. **Stretch** Suggest that students choose a different sum for the game (11–15).

CENTER
Directions

Find the Pair

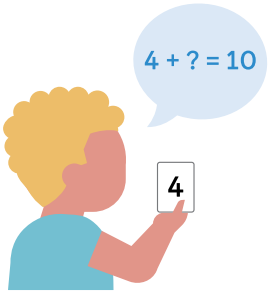
Stage 2

1



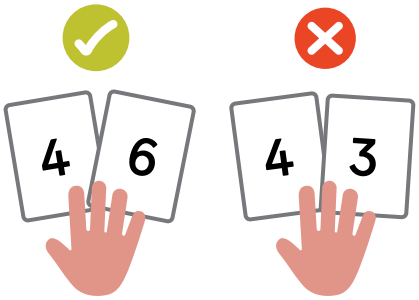
Each player draws 5 cards and lays the rest facedown in a pile.

2



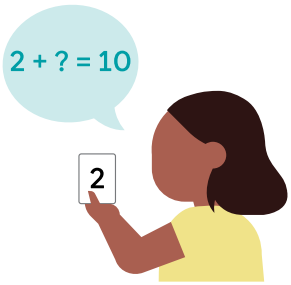
Ask your partner for a number card so you can make 10.

3



Yes? Put the pair of cards down, and fill in the equation.
No? Draw another card from the pile.

4



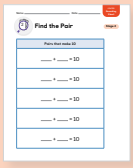
Take turns asking for cards to make 10. The player who makes more pairs wins.

Let's find pairs that make 10.

Pairs

You'll need . . .

Number Cards, 0–10



Recording Sheet

Name _____ Date _____

CENTER
Recording Sheet

Find the Pair

Stage 2

Pairs that make 10
_____ + _____ = 10
_____ + _____ = 10
_____ + _____ = 10
_____ + _____ = 10
_____ + _____ = 10

Shake and Spill

Students work with counters and a cup to build counting, addition, and subtraction skills.

GRADE K	**Stage 1**	Count
	Stage 2	Which Is More?
	Stage 3	Represent
	Stage 4	Cover (Up to 5)
GRADE 1	**Stage 5**	Cover (Up to 10)
	Stage 6	Cover (Up to 20)

Shake and Spill

Stage	Materials	Differentiation
Stage 1 Count **(GRADE K)**	• Directions, Work Mat (Centers Resources) • 5-frames, two-color counters (Manipulative Kit) • cups (Classroom materials)	**Support** • Keep the same number of counters in the cup for several rounds until students develop an understanding of the constancy of the quantity. • Have students use no more than 5 two-color counters before progressing up to 10. **Stretch** Provide students with access to 10-frames to represent the counters.
Stage 2 Which Is More? **(GRADE K)**	• Directions, Work Mat (Centers Resources) • 5-frames, two-color counters (Manipulative Kit) • cups (Classroom materials)	**Support** • Have students use either the word *more* or *fewer* to describe the red and yellow counters, instead of using both words to describe the same set of counters. After playing a few rounds using the word *more*, have students play a few rounds using the word *fewer*. • Have students use no more than 5 two-color counters before progressing up to 10. **Stretch** Have students observe as the groups are adjusted. Adjustments could include changing the arrangement of the groups or adding counters to or removing counters from one or both groups. Have students compare the adjusted groups.
Stage 3 Represent **(GRADE K)**	• Directions, Recording Sheets (Expressions, Equations) (Centers Resources) • two-color counters (Manipulative Kit) • cups (Classroom materials)	**Support** Have students use colored pencils when drawing their expressions to help them differentiate the two addends. **Stretch** Have students adjust the group by adding or taking away counters or by flipping over counters to change the color. Have students complete the next row on the Recording Sheet and discuss what they notice.

Shake and Spill (continued)

Stage	Materials	Differentiation
Stage 4 Cover (Up to 5) **(GRADE K)**	• Directions, Recording Sheet (Centers Resources) • two-color counters (Manipulative Kit) • cups (Classroom materials)	**Support** • Have students use a 5-frame to help visualize the missing counters. • Have students use different strategies to find the missing part by counting on, counting back, or using known facts of 5. **Stretch** Encourage students to use a different total number of counters with each shake and spill.
Stage 5 Cover (Up to 10) **(GRADE 1)**	• Directions, Recording Sheet (Centers Resources) • two-color counters (Manipulative Kit) • cups (Classroom materials)	**Support** • Have students use a 10-frame to help visualize the missing counters. • Have students use different strategies to find the missing part by counting on, counting back, or using known facts of 10. **Stretch** Encourage students to use a different total number of counters with each shake and spill.
Stage 6 Cover (Up to 20) **(GRADE 1)**	• Directions, Recording Sheet (Centers Resources) • two-color counters (Manipulative Kit) • cups (Classroom materials)	**Support** • Have students use fewer counters until they are ready to progress to 20. • Have students use different strategies to find the missing part by counting on, counting back, or using known facts of 20. **Stretch** Encourage students to use a different total number of counters with each shake and spill.

Shake and Spill

Stage 2

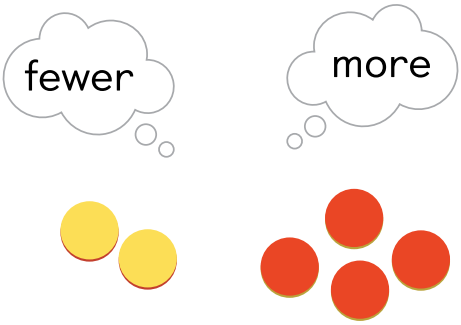
1

Put some counters in your cup.

2

Shake the cup and spill the counters.

3



Tell your partner which color has *more* and which color has *fewer*.

4

Take turns.

Let's compare.

Pairs

You'll need . . .

5-frames

10 two-color counters

cup

Work Mat

Shake and Spill

Stage 3

1

Put some counters in your cup.

2

Shake the cup and spill the counters.

3

2 + 4

Record how many yellow and how many red.

4

Take turns.

Let's use addition to show how many red and yellow counters in all.

Pairs

You'll need . . .

10 two-color counters

cup

Recording Sheet

Name _____ Date _____

CENTER
Recording Sheet

Shake and Spill

Stage 3
(Words and Numbers)

Total counters	Draw a picture	Words and numbers
		☐ and ☐
		☐ and ☐
		☐ and ☐
		☐ and ☐

Name _____ Date _____

CENTER
Recording Sheet

Shake and Spill

Stage 3 (Expressions)

Draw a picture	Expression
	☐ + ☐
	☐ + ☐
	☐ + ☐
	☐ + ☐
	☐ + ☐
	☐ + ☐

Name _____ Date _____

CENTER
Recording Sheet

Shake and Spill

Stage 3 (Equations)

Round	Equation
1	☐ + ☐ = ☐
2	☐ + ☐ = ☐
3	☐ + ☐ = ☐
4	☐ + ☐ = ☐
5	☐ + ☐ = ☐
6	☐ + ☐ = ☐
7	☐ + ☐ = ☐

GRADE 1

Extensions

The following section includes a selection of Extensions. Extensions are 10–15-minute activities aligned to the most critical topics in a sub-unit. These are print-based, hands-on activities, structured on the principle of student choice and designed to be student-led. Extensions appear as part of lesson differentiation.

Name ..... Date .....

1 Look how the Romans wrote down numbers.

1 is I	4 is IV	7 is VII
2 is II	5 is V	8 is VIII
3 is III	6 is VI	9 is IX

Circle to show if the equation is *true* or *false*.

IX – II = VII

IV + III = IX

Name ..... Date .....

2 Create a true equation using Roman numerals.

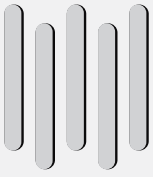
_____

3 Create a false equation using Roman numerals.

_____

4 These equations are written using Roman numerals and are made using sticks. Show how to move 1 stick to make the equation true.

You'll need . . .



Sticks

IV + III = IX

IX − V = VI

Unit 1 Sub-Unit 2 Extension

Assign problems to students who want to extend their thinking.

Assign Problems 2, 3, and 4 to students who have solved Problem 1. Problems 2, 3, and 4 can be solved in any order.

Materials

- Sticks (problem 4)

Problem 1

Students build fluency with adding and subtracting within 10 and learn about Roman numerals.

Provide students with the following hints if additional scaffolding is needed.

- **Hint 1:** Say, "Rewrite each equation using numbers 1, 2, 3, 4, 5, 6, 7, 8 and 9. Is the equation you got true or false?"

IX − II = VII

IV + III = IX

Problem 2

Students build fluency with adding and subtracting within 10 and learn about Roman numerals.

Provide students with the following hints if additional scaffolding is needed.

- **Hint 1:** Say, "Write a true equation using the numbers 1, 2, 3, 4, 5, 6, 7, 8 or 9. Then rewrite it using Roman numerals."

Answers may vary. Sample responses shown.

III + V = VIII

Problem 3

Students build fluency with adding and subtracting within 10 and learn about Roman numerals.

Provide students with the following hints if additional scaffolding is needed.

- **Hint 1:** Say, "Write a false equation using the numbers 1, 2, 3, 4, 5, 6, 7, 8 or 9. Then rewrite it using Roman numerals."

Answers may vary. Sample responses shown.

VII − VII = IV

Problem 4

Students build fluency with adding and subtracting within 10 and extend their logical reasoning by solving the puzzle.

Provide students with the following hints if additional scaffolding is needed.

- **Hint 1:** Ask, "What number does each set of sticks represent?"
- **Hint 2:** Say, "Try to move 1 stick to change numbers on the left side but keep the right side unchanged."

Sample responses shown.

VI + III = IX

X − IV = VI

Notes

Notes

Notes

Notes

Notes

Notes

Notes

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