

Classroom Mathematics

California

Program Overview



GRADES

K-1

Hear What Authors and Advisors of *Classroom Mathematics California* Have to Say



“Students connect with mathematics on a deeper level when they explore its applications in real-world contexts, discovering its relevance and power in everyday life.”

—Gladis Kersaint



“Because routines are meant to be repeated, they are effective vehicles for developing new habits. Thus, teachers can lean into instructional routines to more easily develop new teaching practices in alignment with the California framework.”

—Grace Kelemanik



“Universal Design for Learning support in *Classroom Mathematics California* serves as a process that can be used to design mathematics learning environments that are both accessible and challenging for all learners.”

—Cathery Yeh



“Teachers make hundreds of decisions per hour in the classroom, often related to the flow and logistics of a lesson. Instructional routines hold the flow of the lesson steady and shift the focus of teachers’ decision making so that they can be responsive to students’ thinking in the moment and provide access and support to each and every student.”

—Amy Lucenta



“This program was designed with explicit, intentional supports that make content more accessible and meaningful for culturally and linguistically diverse learners. We want learners to see themselves in the curriculum, helping them strengthen their mathematical identities.”

—Mark Ellis

Bringing the California Framework to Life

Designed to support the implementation of the California framework, *Classroom Mathematics California* empowers educators with comprehensive resources and innovative strategies that bring the framework’s core principles to life, ensuring students not only grasp mathematics concepts but also develop genuine excitement to learn mathematics.

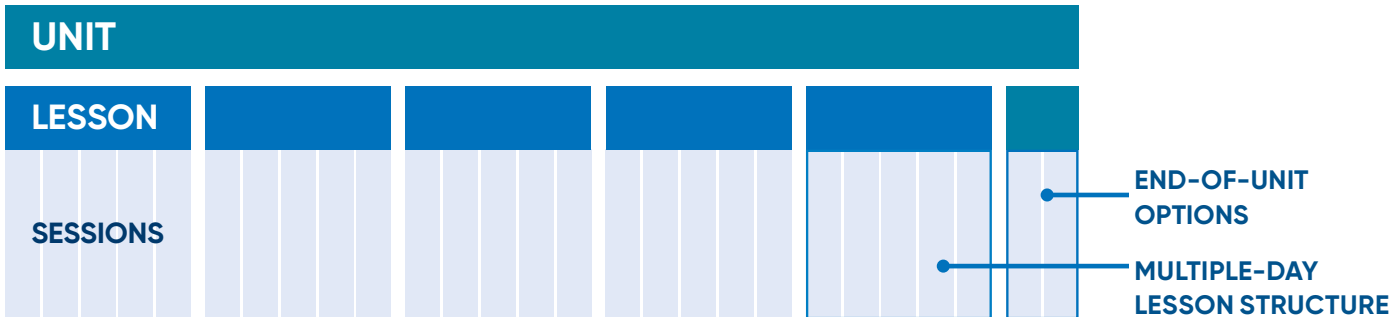


Table of Contents

- **Connect Mathematical Concepts** 4
- **Building Big Ideas** 6
- **The Multiple-Day Lesson Structure in Action** 8
- **Universal Design for Learning** 14
- **Data Experiences** 16
- **Language Support** 18
- **Culturally and Linguistically Responsive Mathematics** 20
- **Practice That’s Just Right** 22
- **See What They Know** 24
- **Differentiation** 26
- **Support That Works for You** 28
- **Family Support.** 29
- **Teacher and Student Components** 30

Connect Mathematical Concepts across Lessons and Units

The instructional design in *Classroom Mathematics California* aligns with the California framework’s emphasis on mathematical ideas as connected and interrelated, rather than as a series of discrete topics.



The Multiple-Day Lesson Structure

The multiple-day lesson structure provides time for California students to develop deep understanding and make connections that extend across the lessons in a unit to build Big Ideas.

~30 lessons in the year with dedicated time for Big Idea connections!

Big Ideas Develop across the Multiple-Day Lesson Structure

Day 1	Day 2	Day 3	Day 4	Day 5
Explore Session	Develop Sessions		Refine Sessions	
- Prioritize critical prerequisite skills - Accelerate access to grade-level content	- Address the rigor of the California standards - Build conceptual understanding through multiple-day Develop sessions - Practice new skills and apply new learning		- Strengthen grade-level practice and differentiation with built-in practice time - Reflect and connect with Big Ideas	

A Powerful Instructional Framework

The Try–Discuss–Connect instructional framework of *Classroom Mathematics California* seamlessly incorporates multiple routines and best practices into instruction while integrating language and mathematics to develop deeper understanding.



TRY IT

Students make sense of the problem.

Students solve and support their thinking.



DISCUSS IT

Students share their thinking with a partner.

Students compare their strategies.



CONNECT IT

Students make connections and reflect on what they have learned.

Students apply their thinking to a new problem.



Building Big Ideas

Each unit helps students organize new skills and concepts into overarching mathematical ideas.

Establish learning goals by introducing **Big Ideas** at the start of a unit.

Key Understandings bridge the Big Idea to the mathematics of the unit.

California Big Ideas

The Big Ideas and Key Understandings for the unit are:

- **Shapes in the World**
There are different ways to describe and compare objects in the world. (Lessons 1, 2)
- **Sort and Describe Data**
There is usually more than one way to sort a group of objects into smaller groups. (Lesson 3)



UNIT OPENER

Position, Length, Height, and Sorting

Show What You Know

Before starting the unit, have children draw to show what they know about position, length, height, and sorting.

Facilitate Whole Class Discussion

Ask questions to activate thinking about the Big Ideas:

- What words can you use to describe where you are?
- Show attribute blocks or pattern blocks. How can you describe these blocks?

Support Positive Learning Habits

At the beginning of the unit, share the individual and social responsibility goal **Establishing Classroom Community**. At the end of the unit, support growth mindset by having children discuss the prompts on the Self Reflection page.

Academic Language Focus

The last Unit Skill describes the academic language focus for the unit. Use the **Academic Language Focus Resources** to model, practice, and formatively assess students' progress in lessons where the focus language skill is listed.

Unit Skills

Skill	Lessons
Describe the position of objects, using words such as above and below.	1
Place objects in given positions.	1
Describe and compare attributes of objects.	2
Compare the lengths of two objects to tell which is longer or shorter.	2
Compare the heights of two objects to tell which is taller or shorter.	2
Sort objects into groups with common attributes.	3
Describe rules used to sort objects into groups.	3
Count sorted groups of objects and sort groups by count.	3
Describe the position, length, and height of an object using math vocabulary.	1–3

1

Unit 1 Position, Length, Height, and Sorting

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BIG IDEAS ORGANIZER

Equal Expressions continued

LESSON 3

LESSON 4

LESSON 5

UNIT 1 BIG IDEAS ORGANIZER

Use words, numbers, and pictures to show your thinking after each lesson.

Write. Draw.

Equal Expressions

LESSON 1

LESSON 2



Unit 1 Relating Addition and Subtraction

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The **Big Ideas Organizer** is used at the end of the lesson as teachers facilitate discussion that encourages students to find examples of Big Ideas and Key Understandings in the lesson.

Students use the organizer to record their new understandings. (Grade 1)

Big Idea Reflections and Connections

Position, Length, Height, and Sorting

UNIT 1

Engage with California Big Ideas

Vote with Your Feet Activity: Children move to show their thoughts about a statement related to the Key Understandings. They move to one side of the room if they agree, and the other if they disagree. They may stand in between if they are unsure or only agree a little.

Shapes in the World
Key Understanding There are different ways to describe and compare objects in the world.
Say: I often compare the length or height of objects in my own life.
Invite children to move to show whether they agree or disagree with the statement.
Share and Discuss

- When do you compare the length or height of objects in your life?
- When do you think other people might compare the length or height of objects?
- When would it be important to know how to compare the length and height of objects?

Sort and Describe Data
Key Understanding There is usually more than one way to sort a group of objects into smaller groups.
Say: I often sort objects when I am not at school.
Invite children to move to show whether they agree or disagree with the statement.
Share and Discuss

- What kinds of things do you sort outside of school?
- What kinds of things have you seen other people sort?
- Why do you or other people sort things?

Unit 1 Position, Length, Height, and Sorting

At the end of the unit, students participate in an **Engage with California Big Ideas** activity and use their thinking to engage with the **Self Reflection**. (Grade K)

Whole class activities generalize Big Ideas. Students use movement to show their thinking related to the Key Understandings. (Grade K)

SELF REFLECTION & BIG IDEAS

NAME: _____

UNIT 1

Show What You Learned

The Big Ideas for this unit are **Shapes in the World** and **Sort and Describe Data**. Have children draw to show what they learned about describing the position of objects in the world, describing and comparing objects based on their length and height, and sorting and counting objects.

Unit 1 Position, Length, Height, and Sorting

Self Reflection

In these activities children will develop and refine their understanding of concepts related to the Big Ideas covered in the unit.

Remind children that before they started the unit, they drew a picture to show what they already knew about the unit's topics.

- Review the skills that children learned in the unit. Refer to the **Unit Skills** chart below.
- Use the **Engage with California Big Ideas** activity on the next page to help children connect with the Big Ideas and Key Understandings of the unit.
- Have children record their thinking on the **Show What You Learned Self Reflection and Big Ideas** page.
- When have you had to add something in real life?
- When have you had to subtract something in real life?
- What are some ways you can model an addition or subtraction problem?

Answers will vary.

SELF REFLECTION

Think about what you learned.

In this unit you learned to...	Lessons
☒ Find missing number partners for 10.	1
☒ Count on to add.	3
☒ Count back to subtract.	3
☒ Use addition to subtract.	4
☒ Solve word problems to 10.	2, 5
☒ Describe how equations, symbols, and models represent number partners and word problems.	1, 3, 5

Big Ideas Connections

Big Idea & Key Understanding	Lesson	Possible Student Connection
Equal Expressions You can show equal amounts using expressions, number bonds, equations, 10-frames, fingers, and number paths. You can use these models to represent addition and subtraction problems.	1	There are many number partners for 10. Every number less than 10 can add with another number to make a total of 10. You can show these number partners on 10-frames or with number bonds or equations to show that they are all equal to 10.
	2	Using a 10-frame can help you keep track of how many counters you have when you add and subtract. 10-frames help you see groups of 2, 5, and 10. When you subtract, you can move counters off the 10-frame. That helps you see how many you took away and how many you have left.

At the end of the unit, students revisit the Big Idea to reinforce and extend their understanding during the **Self Reflection**. (Grade 1)

The **Big Ideas Connections** table in the Teacher's Guide offers examples of the ways Big Ideas can be applied. (Grade 1)

The Multiple-Day Lesson Structure in Action: Explore Session

1 Day

Explore Session

2 Days Develop Sessions

2 Days Refine Sessions

Each lesson begins by activating students' prior knowledge to build on new ideas and concepts and accelerate access to grade-level content.

Grade-Level Planning (Prerequisites) Report

Use the Grade-Level Planning (Prerequisites) report as you start the lesson to identify what students know, inform instruction and groupings, and find curated resources.



LESSON 6

SESSION 1 EXPLORE

Purpose

- **Explore** attributes of three-dimensional shapes.
- **Explore** shapes in the environment.

What do you notice?

What do you wonder?

START

Number Sense Notice and Wonder

Show the slide.

ASK: *What do you notice? What do you wonder?*

- Allow children time to explore the illustration before they share with a partner and then with the class. Accept all responses.
- To support vocabulary, have children identify these items in the illustration: cardboard box, tent, tube, telescope.

Facilitate Whole Class Discussion

Encourage children to generate questions for discussion.

- *What shapes do you see? How can you describe them?*
- *What other things could the children use to build a fort?*



RHyme AND COUNT (chant) *Groups of 10 can help us see from zero to infinity! Have children count orally by 10s to 100 as they flash 10 fingers with each number. Repeat the count 2 or 3 times.*

Daily Activities to Develop Number Sense

Every session starts with a student-driven activity designed to help students:

- Develop a sense of number and quantity
- See numbers and quantities everywhere
- Uncover patterns and see number relationships
- Use numbers flexibly to solve problems
- Use language to construct number sense

Counting and Cardinality Practice

Playful, daily counting activities involving movement, rhythm, and rhyme provide students with ongoing rote counting practice.

This repeated practice helps students learn the counting sequence, identify number patterns, and develop an understanding of the base-10 number system.

SESSION 1 EXPLORE SESSION 2 DEVELOP SESSION 3 DEVELOP SESSION 4 REFINE SESSION 5 REFINE LESSON 6

Discover It | SMP 3.7

What are the attributes of solid shapes?

This activity lets children explore solid shapes and notice their attributes.

- Have each child choose one geometric solid.
- Hold up a **cube**. Ask: *Is your shape the same as mine in any way?* Let several children respond and tell how their **solid** shapes are like the cube being shown. Use the opportunity to introduce the words **face**, **corner**, and **edge**. For example, say: Yes, both of our shapes have flat sides. Those are called faces.
- Repeat with another shape. After a couple of rounds, have children trade shapes and repeat the activity.

Sentence Frames
To support children explaining their strategies when speaking or writing:
• I notice that _____.
• Both shapes have _____.

Children will describe defining and non-defining attributes as they get to know the shapes. Attributes may include color, size, general shape, and the number of corners, edges, and faces. Throughout the lesson, gently introduce and encourage formal names for solid shapes, but use (and do not discourage the use of) informal names as well, such as box, ball, or can.

©Curriculum Associates, LLC. Copying is not permitted. LESSON 6: Three-Dimensional Shapes and Weights

Discover It starts the lesson with concrete activities and representations using manipulatives.

Discover It | SMP 3.7

What are the attributes of solid shapes?

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SESSION 1 EXPLORE LESSON 8

Make a Ten to Add

8 children are on a small bus. More children want to get on the bus. How many children have to wait?

Math Toolkit
counters
10-frames
number bonds
Session Tools
number cubes (1 to 6)

INVESTIGATE IT

I rolled _____. _____ have to wait.
I rolled _____. _____ have to wait.
I rolled _____. _____ have to wait.

Learning Target
Break apart a number to make a ten. Use this strategy to add.

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Investigate It uses the ideas students have just explored as a bridge to a new concept. Students play, discover, and discuss as they dig deeper into the lesson content.

Concrete actions and materials are represented with visual models.

Visual models are connected with numbers and symbols to represent problems abstractly.

In Grade 1, students reflect on concepts they know and will build upon throughout the lesson during **Build Concepts**.

SESSION 1 EXPLORE SESSION 2 DEVELOP SESSION 3 DEVELOP SESSION 4 REFINE SESSION 5 REFINE LESSON 8

Build Concepts | SMP 2.3.4

What does it mean when you say make a ten?

This graphic organizer guides children to construct their ideas about the meaning of the concept make a ten.

Sentence Frames
To support children explaining their thinking when speaking or writing:
• I think make a ten means _____.
• An example of making a ten is _____.

Build Concepts
1. Ask children what the word **make** means. Encourage them to share how they use this word in their daily lives.
2. Have children use words, numbers, and pictures to show what they already know about how they can make a ten.
3. Have children share their examples with a partner and look for similarities in their thinking. For many children this will include different representations of partners for 10.
4. Read the problem aloud: Find all the addends with a total of 10. Circle 10.
5. Check understanding by having children restate the problem in their own words.
6. Have them work with a partner to answer problem 2. For additional support, provide counters and ask them to model each set of addends. Encourage children to use the phrase **make a ten** to explain their choices.

Math Reflection How did 10-frames help you show 10 and some more?
Self Reflection Respecting Others: How can you show respect when you compare ways to make a ten with your classmates?

©Curriculum Associates, LLC. Copying is not permitted. LESSON 8: Make a Ten to Add

The Multiple-Day Lesson Structure in Action: Develop Sessions

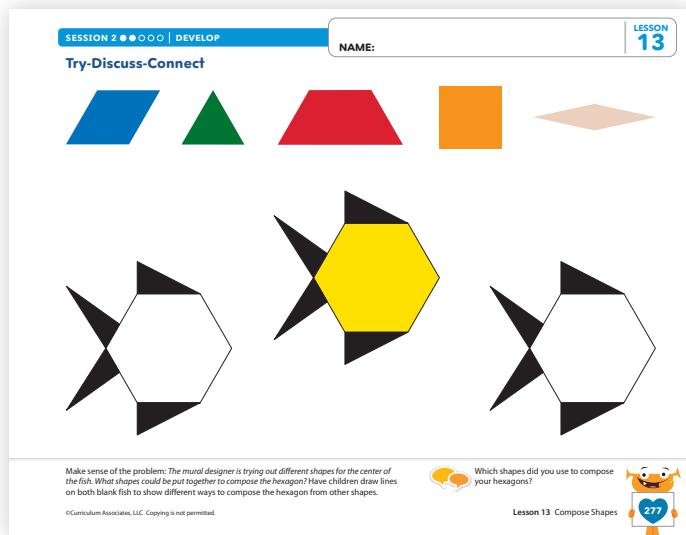
1 Day
Explore
Session

2 Days

Develop
Sessions

2 Days
Refine
Sessions

Each lesson includes two Develop sessions devoted to helping students develop new strategies and understandings.



Try It: Make Sense of the Problem and Solve and Support Your Thinking

- Students tap into existing knowledge to **persevere** in solving the problem.
- Students decide which materials to use, giving them **agency** over their learning.
- Teachers **anticipate solutions and monitor** as students explore strategies.

Language Routines Help Students Learn Academic Language

- Choose from four different language routines to help students make sense of the problem.
- Routines are flexible and can be switched out as desired.

Say It Another Way

Why: This routine helps children paraphrase a word problem or text so they know if they have understood it. It provides an opportunity to self-correct or to ask for clarification and ensures that the class hears the problem or story more than once and in more than one way.

How: Children read or listen to a word problem read aloud.

- Have one student paraphrase the text. Children who are listening show thumbs up or thumbs down to indicate whether the paraphrase is complete and accurate.
- Invite children who show thumbs down to explain what is inaccurate or missing in the paraphrase they heard.

The original speaker th

Notice and Wonder

Why: Notice and Wonder encourages children to view and think about things through a mathematical lens. It is an unpressured time for children to make sense of a problem/image.

How: Present a problem or a problem display, such as geometric figures, a data display, expressions, or equations without the final question or task. Ask:

- *What do you notice? What do you wonder?*

Record all responses without comment—none are wrong. Then present the question/task of the problem and lead a discussion about which of the things the children noticed and wondered might be relevant to the problem.



SESSION 1
EXPLORE

SESSION 2
DEVELOP

SESSION 3
DEVELOP

SESSION 4
REFINE

SESSION 5
REFINE

LESSON 13

MATERIALS

Math Toolkit

- Pattern blocks
- Geometric solids

Preparation:

Provide children with Math Toolkit materials as appropriate for the session.

Develop

Academic Language

Why?

Reinforce the meaning of *compose*.

How?

Explain that *compose* means to put pieces together to make something new.

SAY:

People *compose* music and stories. When we put shapes together, we *compose* a new shape. **ASK:** What shapes do you see that are composed of smaller shapes? Encourage children to name or point to examples in the classroom, such as a floor composed of square tiles.

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Try-Discuss-Connect

How can you compose a hexagon from smaller shapes?

Try It

SMP 1, 2, 4, 5, 6

Read the problem aloud:
The mural designer is trying out different shapes for the center of the fish. What shapes could be put together to compose the hexagon?

Make Sense of the Problem

Use **Say It Another Way** to help children make sense of the problem. Ensure children understand they should put shapes together to make a hexagon.

Discuss It

SMP 2, 3, 6

Support Partner Discussion

Have children respond to the Discuss It question with a partner:
Which shapes did you use to **compose** your hexagons?

Facilitate Whole Class Discussion

Have two or three selected children share their strategy in the order you have chosen.

ASK

How did [child name] compose the hexagon?

LISTEN FOR

children to name and describe the shapes [child name] used to compose the hexagon.

ASK

How is [child name]'s hexagon like [child name]'s? How is it different?

LISTEN FOR

an explanation that both hexagons are the same way, but they are composed of different shapes.

Guide children to **Compare and Connect** the strategies.

Connect It

SMP 2, 4, 5

Help children recognize that all the hexagons are composed of two or more flat shapes.

ASK

Why can we use different shapes to make a hexagon?

LISTEN FOR

children to describe how two or more smaller shapes can be put together in different ways to make a hexagon.

In the next **Apply It** activity, children will practice composing shapes from two or more shapes and name the new shape if they can.

Discuss It: Share Your Thinking with a Partner

- Students share their thinking with a partner to compare strategies.
- Teachers use the **Ask/Listen Fors** to guide discussion.
- While the teacher facilitates a **Compare and Connect** routine, students engage in whole class discussions, comparing and connecting models and strategies.

Discuss It | SMP 2, 3, 6

Support Partner Discussion

Have children respond to the Discuss It question with a partner:
Which shapes did you use to **compose** your hexagons?

Facilitate Whole Class Discussion

Have two or three selected children share their strategies in the order you have chosen.

ASK How did [child name] compose the hexagon?

LISTEN FOR children to name and describe the shapes that [child name] used to compose the hexagon.

ASK How is [child name]'s hexagon like [child name]'s hexagon? How is it different?

LISTEN FOR an explanation that both hexagons are the same size and turned the same way, but they are composed of different shapes.

Guide children to **Compare and Connect** the strategies.

Select and Sequence Strategies

One possible order for whole class discussion:

- Using pattern blocks
- Drawing lines in the hexagons without using pattern blocks

Connect It | SMP 2, 4, 5

Help children recognize that all the hexagons are composed of two or more flat shapes.

ASK Why can we use different shapes to make a hexagon?

LISTEN FOR children to describe how two or more smaller shapes can be put together in different ways to make a hexagon.

In the next **Apply It** activity, children will practice composing shapes from two or more shapes and name the new shape if they can.

Connect It: Make Connections

- Help solidify conceptual understanding.

The Multiple-Day Lesson Structure in Action: Develop Sessions, Cont'd.

1 Day
Explore
Session

2 Days

Develop
Sessions

2 Days
Refine
Sessions

LESSON 13

SECTION 2 DEVELOP

APPLY IT | SMP A.7

Compose Flat Shapes Activity

How can you put shapes together to compose another shape?

This activity guides children to compose shapes from smaller shapes.

MATERIALS (per child)

Pattern blocks

Compose Flat Shapes Worksheet (optional)

Preparation: Provide each child with a large pile of pattern blocks.

Sentence Frames

To support children explaining their strategies when speaking or writing:

- I made a _____
- I used that _____

Facilitate Whole Class Discussion

Guide children to share their understanding of composing shapes to make a new shape. Have children turn and talk with a partner to share their ideas before discussing as a class.

ASK: Were there any shapes you could not use to build another shape? Which ones?

LISTEN FOR: Children to recognize that some shapes cannot be used to build another shape because they do not have the right attributes. For example, they could not use a square to build a triangle.

Error Alert: If children have trouble seeing how two or more shapes compose and shape, have them lay pattern blocks at a size, then color the resulting composite shape one.

Lesson 13 Compose Shapes

SECTION 2 DEVELOP **Answers will vary. Possible responses shown.**

Compose Flat Shapes Activity

2

1

Lesson 13 Compose Shapes

Apply It encourages students to solve the problems choosing any strategy, including the use of manipulatives.



Flexible Centers, Play, and the Whole Student

Center options meet the needs of every student and teacher.

LESSON 13

CENTERS, Differentiation, and Practice

CENTERS | Student-Led Practice

Session Centers

SESSION 2: Compose Flat Shapes

SESSION 3: Compose Solid Shapes

SESSION 4: Color to Compose Shapes

Centers Library

SKILL REVIEW: Memory

FLUENCY: Show It

DIFFERENTIATION | Teacher-Led Small Group

Differentiate in small groups to support needs observed previously.

If children...	They may...	Support with...
Can benefit from additional support sliding, turning, or turning over shapes to compose another shape.	Benefit from focusing on composing shapes from two trapezoid blocks in different ways.	RETEACH from Session 2 Focus on turning, turning over, and sliding blocks to compose new shapes.
Can efficiently compose flat shapes from two pattern blocks.	Benefit from challenging themselves to find multiple ways to compose shapes from five pattern blocks.	EXTEND from Session 2
Can efficiently and consistently compose a shape from two solid shapes based on a description.	Benefit from the opportunity to identify objects that can be composed with given shapes.	EXTEND from Session 3
Can benefit from support following directions to compose a shape.	Progress by listening to and observing others describe and make shape compositions.	RETEACH from Session 3 while using target language.

Digital Practice

Interactive Practice

iReady Personalized Instruction

CLOSE

MATH REFLECTION What did you learn about composing shapes?

SELF REFLECTION How does using kind words when you talk to your partner show respect?

Lesson 13 Compose Shapes 287-288

LESSON 13

Practice

Draw It

Example

Lesson 13 Compose Shapes

Independent Practice

problems solidify students' conceptual understanding and build procedural fluency.

Show It

Lesson 13 Compose Shapes

Centers Library for Review and Fluency: Easy-to-use Centers Cards to review skills and build fluency

LESSON 13

Color to Compose Shapes Activity

Check that children compose at least one of each shape.

Lesson 13 Compose Shapes

Centers to Reinforce Session Concepts: Students can use session activities as a center and use it repeatedly in future sessions in the lesson.

The Multiple-Day Lesson Structure in Action: Refine Sessions

1 Day
Explore
Session

2 Days
Develop
Sessions

2 Day

Refine
Sessions

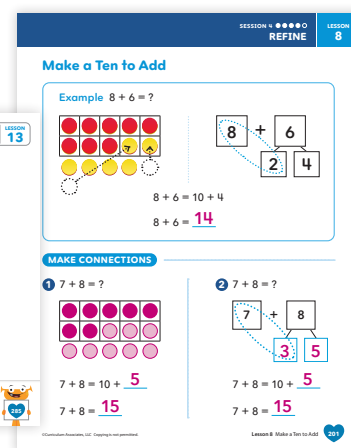
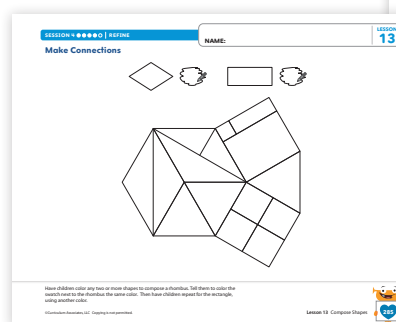
Give students time to refine their learning from the lesson. Each lesson ends with dedicated class time to practice and apply lesson concepts and options for one-on-one or small group differentiation activities.

Put It All Together

A variety of activities help students see how everything in the lesson works together.

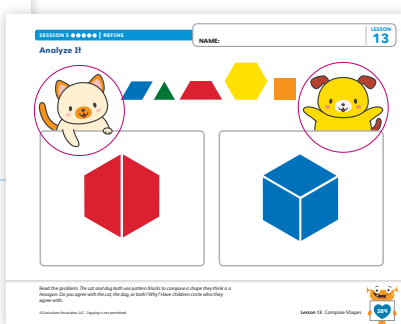
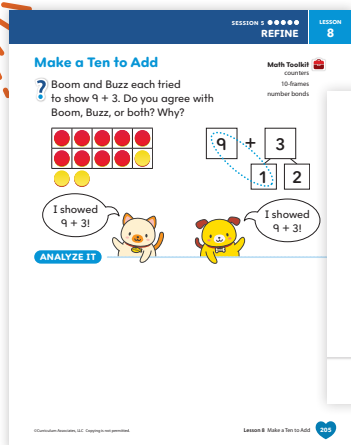
Make Connections

Help students see relationships in mathematics.



Analyze It

Use error analysis to synthesize lesson content.

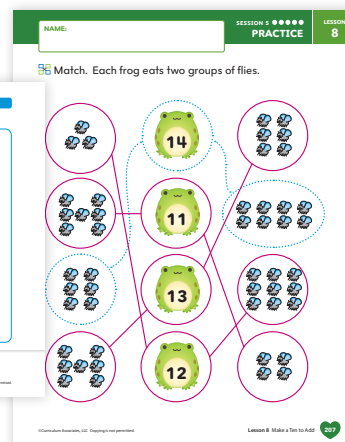
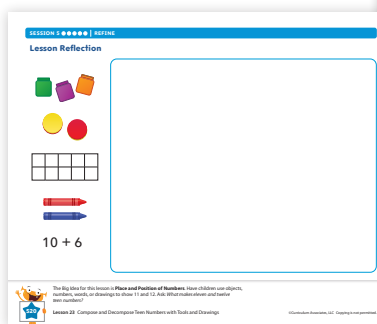


Centers and Practice

Help students reflect on their learning from the lesson.

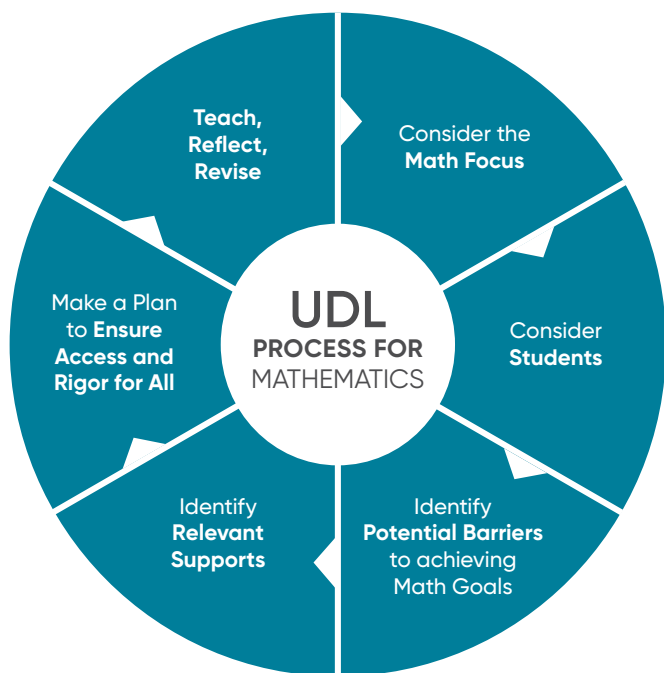
Flexible Options for Assessment

The second Refine session includes time for administering the assessment of your choice: activity-based (Grade K only), paper/pencil, or digital.



Universal Design for Learning (UDL): Ensuring Classroom Equity

Classroom Mathematics California leverages the UDL Framework and embeds supports throughout the instructional design.



UDL Process Toolkit

This Toolkit, found on the Teacher Toolbox, is a digital resource for instructional materials and supports:

- A planning process that ensures access and equity for all students
- UDL features in the program to maximize full effectiveness
- Best-practice implementation

Principle 1: Design Multiple Means of Engagement

- Features like Number Sense and Connect to Culture offer culturally sustaining mathematics opportunities.
- Hands-On Activities, Visual Models, Center Activities, and cooperative learning routines provide flexible ways for students to engage with rigorous mathematics concepts.
- End-of-unit Show What You Know encourages students to evaluate their leadership and progress toward unit goals.

LESSON 13

SESSION 1 EXPLORE

Purpose

- Explore attributes of two-dimensional shapes.
- Explore drawing two-dimensional shapes in different sizes and orientations.

START

Number Sense

Notice and Wonder

Show the slide.

ASK: What do you notice? What do you wonder?

- Allow children time to explore the illustration before they share with a partner and then with the class. Accept all responses.
- To support vocabulary, have children identify these items in the illustration: mural, squid, sea turtle, ladder, seaweed.

Facilitate Whole Class Discussion

Encourage children to generate questions for discussion.

- What shapes do you see? Where do you see them?
- Look at the yellow fish. What shapes have been used to draw the yellow fish?

Use **Connect to Culture** to encourage children to make personal connections.

What do you notice? What do you wonder?

Connect to Culture

Use these activities to connect with and leverage the diverse backgrounds and experiences of all children. Engage children in talking and learning about the theme throughout the lesson.

Start | Connect to Culture

SESSION 1 | Number Sense

Connect to Culture

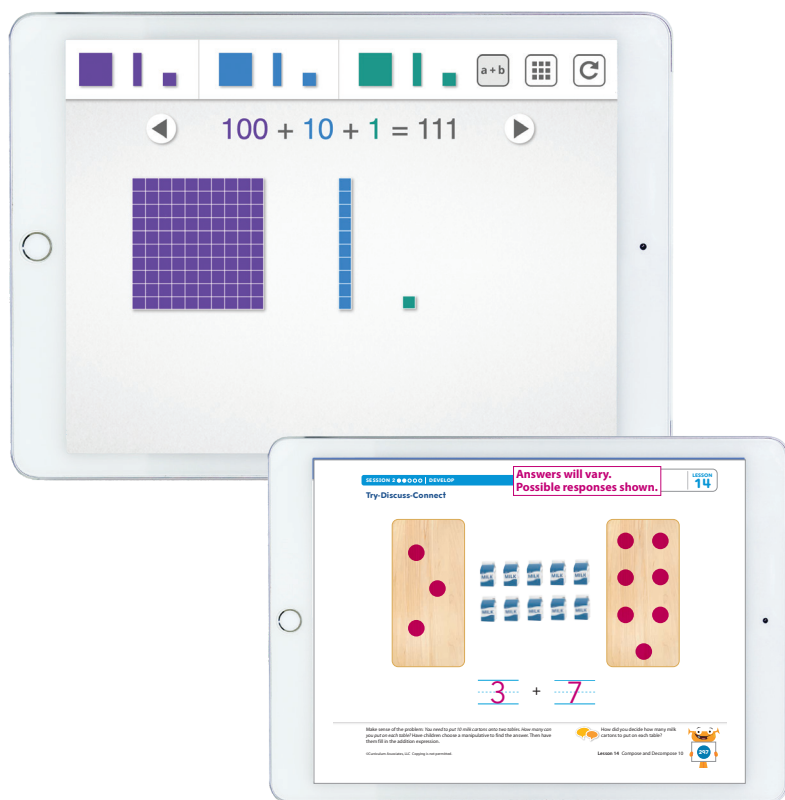
SESSION 2 | Try It

Connect to California

ANYTIME | Connect to California

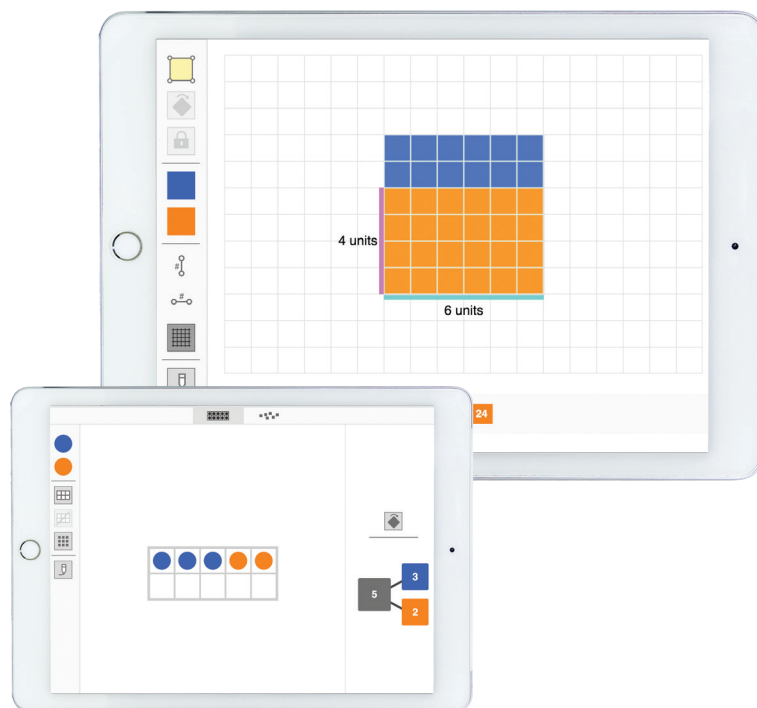
Principle 2: Design Multiple Means of Representation

- Options for language and symbols, like those in Discuss It and Connect It, are used in class discussion to support understanding.
- Comprehension options include leveraging unitwide Big Ideas, activating prior knowledge, and encouraging sensemaking in problem solving.
- Manipulatives and digital accessibility features, such as the Student Bookshelf and Interactive Practice, reduce learning barriers.



Principle 3: Design Multiple Means of Action and Expression

- Expression and communication options, like mathematical manipulatives and virtual tools, enable students to show their knowledge and skills.
- Problems like Try It empower students to see there are many ways to solve a problem.
- Options for interaction like keyboard navigation and digital components enable all students to participate.

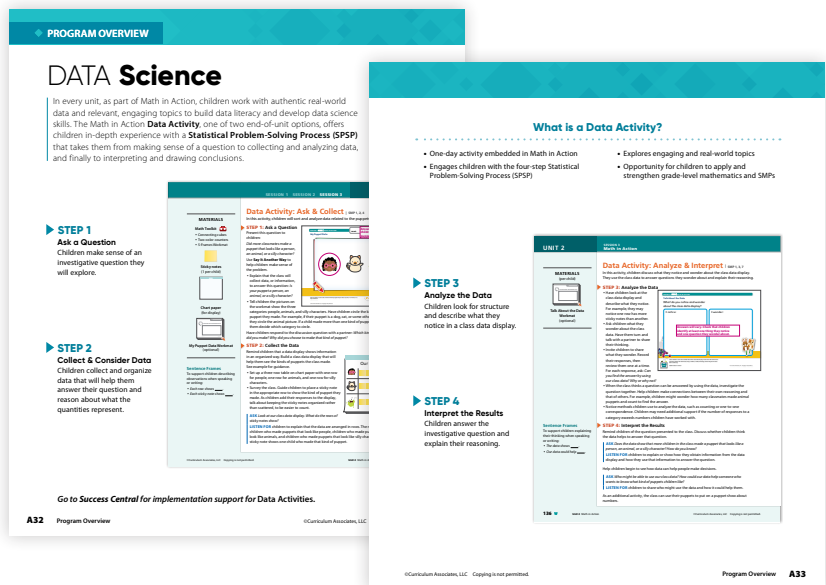


Inspire Curiosity with Engaging Data Experiences

Develop data literacy through engaging, real-world activities that enable students to apply and strengthen grade-level mathematics.

What Is a Data Activity?

- One-day activity embedded in Math in Action
- Engages students with a four-step statistical problem-solving process
- Explores engaging and real-world topics
- Opportunity for students to apply and strengthen grade-level mathematics and Standards for Mathematical Practice



A Four-Step Statistical Problem-Solving Process

Each Data Activity encourages students to use a statistical problem-solving process.

STEP
1

Ask a Question

Students ask or make sense of an investigative question they will explore.

STEP
2

Collect and Consider Data

Students collect or access data that will help them answer their question.

STEP
3

Analyze Data

Students organize and display their data.

STEP
4

Interpret the Results

Students answer the investigative question.

START

Number Sense

Data Talk

Show the slide.

ASK: *What do you notice? What do you wonder?*

- Encourage children to take time to look at the graph and gather information.
- Have children turn and talk about what they notice and wonder about the data.

Facilitate Whole Class Discussion

- Have children share what story they think the graph is telling and how they know.
- Ask children to share questions the graph made them wonder about and what information they would need to answer their questions.

Start Data Talk

What would you put in a playground?

Sandbox 

Slide 

Swings 

What do you notice? What do you wonder?

MOVE AND COUNT Have children count forward and backward by 10s to 100. Then have them tap their desk as they count forward and backward from 4 to 21 and 44 to 67. Have them add a clap or hop for each multiple of 10.

START

Number Sense

Data Talk

Show the slide.

ASK: *What do you notice? What do you wonder?*

- Encourage children to take time to look at the graph and gather information.
- Have children turn and talk about what they notice and wonder about the data.

Facilitate Whole Class Discussion

- Have children share what story they think the graph is telling and how they know.
- Ask children to share questions the graph made them wonder about and what information they would need to answer their questions.

Start Data Talk

Which kind of books do you like the most?

Adventure 

Animal 

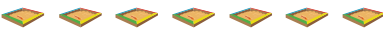
Superhero 

What do you notice? What do you wonder?

MOVE AND COUNT Have children count forward and backward by 10s to 100. Then have them march in place as they count forward and backward from 14 to 31 and 49 to 63. Have them add a clap or hop for each multiple of 10.

Start Data Talk

What would you put in a playground?

Sandbox 

Slide 

Swings 

What do you notice? What do you wonder?

LESSON 11 | SESSION 5 ●●●●● | REFINE

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Data Talks (Grade 1)

- Data Talks are five- to 10-minute activities in which students explore data, develop data literacy, and apply skills to grade-level content.
- They tie directly to the mathematics of the session.
- Students work with data graphs, charts, maps, and plots to interpret trends, make observations, and critique displays.

Data Talk slides are provided to prompt student discourse at the start of a session.

All California Students Are Math Language Learners

All students, including English Learners, get the support they need to engage with rigorous content.

Language Objectives

- **Language Objectives** are tied directly to the mathematics Content Objectives.
- They address the four domains of language students will understand and use (i.e., listening, speaking, reading, writing) to meet the mathematical objectives.
- Language-related features and resources address the California English Language Development (ELD) Standards and scaffold instruction to support English Learners.

Develop Academic Language

Why? Learn an additional meaning of *stack*, which was used in Lesson 6.

How? ASK: *In Lesson 6, you decided if a solid shape could stack or roll. What did stack mean then? Invite a volunteer to explain stack. SAY: You can stack blocks, and you can also have a stack of something. Here is a stack of papers. ASK: Why do you think this is called a stack? Have children share. Highlight responses that focus on the fact that in a stack, one thing is placed on top of another.*



ELD.PI.K.12b

Develop Academic Language for all students at the word, sentence, or discourse level.

Focus can be on multiple-meaning words, affixes, word families, irregular verbs, unpacking and constructing complex sentences, and conversation tips.

LESSON 11

California Standards

Math Focus

K.CC.3 Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).

K.CC.4 Understand the relationship between numbers and quantities.

a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.

b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.

ELD Support

ELD.PI.K.1, ELD.PI.K.6, ELD.PI.K.8, ELD.PI.K.10, ELD.PI.K.11, ELD.PI.K.12b, ELD.PI.K.3b, ELD.PI.K.4, ELD.PI.K.5, ELD.PI.K.6

ELD Support

ELD.PI.K.1, ELD.PI.K.6, ELD.PI.K.8, ELD.PI.K.10, ELD.PI.K.11, ELD.PI.K.12b, ELD.PI.K.3b, ELD.PI.K.4, ELD.PI.K.5, ELD.PI.K.6

OVERVIEW

Count, Show, and Write Numbers 6 to 10

STUDENT LEARNING TARGET: Count up to 10 objects. Write or show a number to represent how many.

Lesson Objectives

Content Objectives

- Count up to 10 using one-to-one correspondence and number words in sequential order.
- Use 10-frames as a tool to count and represent counts to 10.
- Recognize and write numbers 6 to 10.
- Understand that the last number said tells the number of objects.

Language Objectives

- Follow oral directions to count up to 10 using one-to-one correspondence, number words in sequential order, and 10-frames.

Lesson Objectives

Content Objectives

- Count up to 10 using one-to-one correspondence and number words in sequential order.
- Use 10-frames as a tool to count and represent counts to 10.
- Recognize and write numbers 6 to 10.
- Understand that the last number said tells the number of objects.

Language Objectives

- Follow oral directions to count up to 10 using one-to-one correspondence, number words in sequential order, and 10-frames.
- State the number of objects, up to 10, counted in a group or arranged in a 10-frame.
- Identify and write numbers 6 to 10 to represent a quantity of objects.
- Compare ways to show or write numbers using connecting words or sentence frames.
- Agree with others to explain how ideas are similar using sentence frames.

Academic *Terms children hear and use*

- **organize** to plan or place things in a way that makes sense.

233a ★ Lesson 11 Count, Show, and Write Numbers 6 to 10

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Supports for Community: Try–Discuss–Connect incorporates language routines to increase class participation and support students as they learn content, apply mathematical practices, and develop language.

 Try It	 Discuss It	 Connect It
Language Routines • Three Reads • Co-Craft Questions • Notice and Wonder • Say It Another Way Teacher Moves • Turn and Talk • Individual Think Time	Language Routines • Compare and Connect • Collect and Display Teacher Moves • Turn and Talk • Individual Think Time • Four Rs Conversation Tips	Language Routines • Collect and Display • Compare and Connect Teacher Moves • Turn and Talk • Individual Think Time • Four Rs

Language Routines, Teacher Moves, and Classroom Conversation Tips promote:

- Collaboration and social interaction
- Language use for a mathematical purpose
- Meta-linguistic awareness

Differentiation to Support English Learners

- Every session includes a support continuum of English proficiency levels, focused on California ELD Standards.
- Encourage scaffolding up.
- Differentiation speaks to specific lesson content and provides guidance for specific activities.

DIFFERENTIATION English Learners Use with Deepen Understanding		
 ELD.PI.1.2 Interacting via written English, ELD.PI.1.12b Selecting language resources		
Emerging: Speaking/Writing	Expanding: Speaking/Writing	Bridging: Speaking/Writing
Support children in explaining how to use the numbers in a fact family to write equations. Display the number bond and two equations for 5, 6, 11. ASK: How can you use this number bond to write equations? What words help you tell how to write other equations? Lead children in making a Co-Constructed Word Bank . If needed, suggest part, whole, same, different, add, subtract, order, and equal. Help partners use the words to explain. Have children help you write an equation for a different number bond.	Support children in explaining how to use the numbers in a fact family to write equations. Display the number bond for 5, 6, 11. ASK: What words can help explain how to use the numbers in this number bond to write equations? Guide children in making a Co-Constructed Word Bank . Be sure to include connected, equation, same, different, addition, subtraction, and order. Have pairs write an equation and explain. Circulate, helping children expand responses into complete sentences.	Support children in explaining how to use the numbers in a fact family to write equations. Display the number bond for 5, 6, 11. SAY: Imagine that you will teach someone to write equations using this fact family. What words will you need? Be a scribe as children make a Co-Constructed Word Bank . Have children write an equation. Help them explain the connection between addition and subtraction equations. As children respond, affirm their use of the terms from the word bank.

BUILDING ACADEMIC LANGUAGE FOR ALL STUDENTS: DESCRIBE

This chart is an example of how to help students progress from everyday to academic language. Use with the Academic Language Focus and Formative Assessment Resources.

LESSON 1 EXAMPLE PROGRESSION

LANGUAGE OBJECTIVE: Describe how an equation represents a model of number partners for 10.

Sample Everyday Language

There's 3, 7, and 10. This number is the bow-tie bears. This is the hat bears. The number 10 is all the bears.

Academic Language Targets

- Use terms related to addition, such as *plus*, *and*, *make*, *total*, *equals*, *equation*.
- Use *model*, *represent*, and *number partners* to connect equations with models of number partners for 10.
- Use complete sentences, such as: *_____ and _____ make 10* OR *The equation shows that _____ and _____ are number partners for 10.*

Guidance by Session

1–2: Present target language in Discover It and Investigate It. Help children use it in Connect It and Apply It.
3: Encourage and highlight use of complete sentences during Model It.
4–5: Reinforce language in 54 EL Differentiation. Practice describing equations in Make Connections. Expect academic language in Analyze It.

Build Academic Language for All Students highlights one lesson Language Objective and shows how teachers can help students bridge everyday language to academic language over the course of lesson activities.

Academic Language Focus Resources and Formative Language Assessment

- Each unit has an Academic Language Focus, such as Explain, Compare, or Justify.
- Students learn the focus, then practice and get feedback on their progress.
- Teachers can use the Formative Language Assessment Recording Sheet to monitor progress.



ACADEMIC LANGUAGE FOCUS UNIT 1 • EXPLAIN

Academic Language Focus: Explain

In this unit, students **explain** how to use place value to round and to add and subtract three-digit numbers.

How to EXPLAIN in Unit 1

- Use terms about place value like *ones*, *tens*, *hundreds*, *place*, *break apart*, and *regroup* so that listeners or readers know exactly what is meant.
- Tell each step in a solution in order. Use connecting words like *first*, *next*, *then*, *last*, and *finally* to help the listener or reader understand what to do.
- Refer to a model or math work to help make the explanation clear.

Sample Academic Language

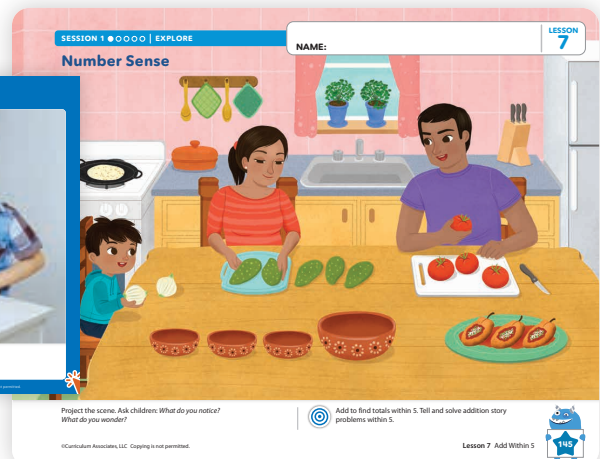
First, find the two tens the number falls between. Then find the halfway number. If the number you are rounding is equal to or greater than the halfway number, round to the greater ten. If your number is less than the halfway number, round to the lesser ten.

Culturally and Linguistically Responsive Mathematics

Validate and affirm students' cultural connections, experiences, and aspirations by integrating them into the instruction so students see themselves in the mathematics.

Celebrate the Student

Problems, activities, and images make mathematics relevant to California students as they see themselves and their classmates in the content.



ANYTIME DURING THE LESSON



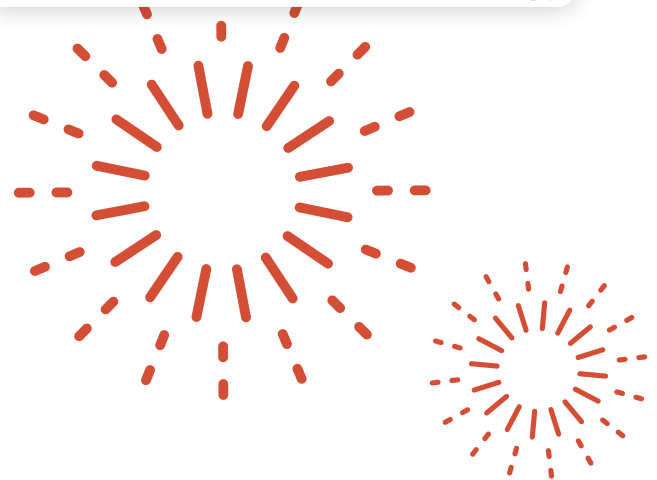
Show the slide. Help children discuss how people consider resources when deciding to use paper books or e-books.

ASK: What do you think this child is doing? Have you ever read a book this way?

SAY: Books from a library are sometimes available as paper books or as e-books. Computers or other electronic devices are used to read e-books.

ASK: What are some things people think about when deciding whether to use paper books or e-books?

Invite children to share their ideas.



California's Environmental Principles and Concepts (EP&Cs):

- Emphasize the close relationship between humans and the natural environment
- Appear in every lesson, giving students the opportunity to explore and apply them

Encourage Home Language

The **Cognate Support** routine at the start of each unit encourages English Learners to use their first language so they can make associations to academic words.

Cognate Support Routine

- Ask children to identify terms that look or sound like words in their home language.
- Check to see if the identified words are cognates.
- Write the Spanish cognate for children to copy next to the English word in their book.
- Say each cognate aloud and invite a native speaker to model pronunciation of the Spanish cognate for all to repeat.

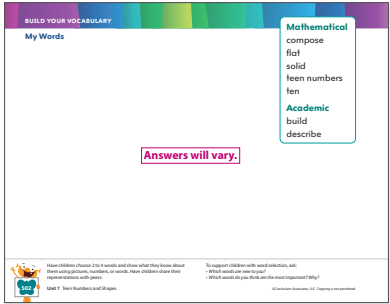
Build Your Vocabulary

What do you know about these words?

Vocabulary Routine

Before the Unit

- Present each word or phrase one at a time.
- Pronounce the word and have children repeat it.
- If children are speakers of Spanish or other Latin-based languages, use the **Cognate Support Routine**.
- Have children rate their familiarity with each word on a scale from 1 to 3:
 - This word is new to me.
 - I've heard it, but I'm not sure what it means.
 - I know this word and can use it.
- Briefly have children talk about when they have heard the word. Model using the word in context, using topics that connect with children in meaningful ways.
- Encourage children to listen for the words in the days ahead.



Connect to Culture

Use these activities to connect with and leverage the diverse backgrounds and experiences of all children. Engage children in talking and learning about the theme throughout the lesson.



SESSION 1 | Number Sense

After completing **How Many?**, encourage children to discuss their own experiences with climbing walls.

SAY: Some playgrounds have climbing walls. A climbing wall is meant to be fun and challenging to play on.

ASK: What do you think would be fun about a climbing wall? What would be challenging? What are some features you have noticed on climbing walls?

Have children turn and talk with a partner to discuss their experiences with a climbing wall. Invite them to design their own climbing wall. Have children present their climbing wall and talk about its different features.



SESSION 2 | Try It

Show the slide to launch a discussion.

SAY: You do a lot of different things at a playground. You can play with friends or even on your own.

ASK: What are some things you do with your friends at a playground? What are some things you do on your own? Which playground equipment do you most like to play on?

Have children turn and talk to discuss what they play on the playground and which equipment they like best. Consider making a list or T-chart as children share out with the class.



ANYTIME | Connect to California

Show the slide to launch a discussion.

SAY: This picture shows people on a hiking trail in Redwood National Park. There are many outdoor activities that people enjoy doing, such as hiking, biking, swimming, or playing sports.

ASK: What outdoor activities do you like to do near where you live? What outdoor activities would you like to try?

Have children draw to show their favorite outdoor activities. Invite them to share their drawings with the class.



ANYTIME | Connect to California

Show the slide to launch a discussion.

SAY: This picture shows people on a hiking trail in Redwood National Park. There are many outdoor activities that people enjoy doing, such as hiking, biking, swimming, or playing sports.

ASK: What outdoor activities do you like to do near where you live? What outdoor activities would you like to try?

Have children draw to show their favorite outdoor activities. Invite them to share their drawings with the class.

Connect to Culture invites students to share their own experiences to connect the mathematics to their own lives.

Protocols for Engagement use cultural communication modes while structuring activities to welcome all students' participation.

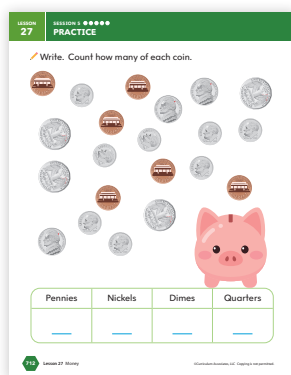
Shout Out Children shout out one-word (or very short) answers at the same time.	Any Whole Class Discussion or Reflect Discussion	• conversational overlap • spontaneity • verbal expressiveness
Thumbs Up, Down, Sideways Children give <i>thumbs up</i> to agree, <i>thumbs down</i> to disagree, or <i>thumbs sideways</i> if unsure in response to a question.	Any Whole Class Discussion or Partner Discussion	• non-verbal expression
Quick Write/Quick Draw Children individually draw a sketch before beginning a partner or whole-class discussion.	Any transition to Partner Discussion or Whole Class Discussion	• individualism

Practice That's Just Right

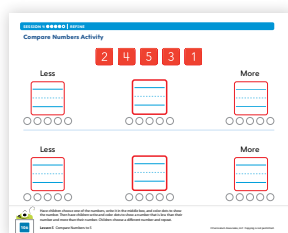
Robust practice options, digitally and in print, means all students have the right practice with the rigor of the California Common Core State Standards for Mathematics for deep conceptual understanding and procedural fluency.

Lesson-Level Practice Opportunities

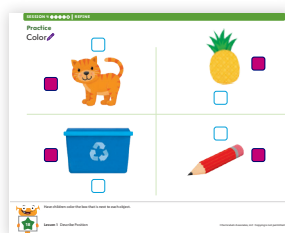
Student Worktext



Additional Practice



Apply It Problems



Refine Sessions

Additional Practice appears in every session. Students build proficiency with the strategies learned in class and apply those ideas to answer critical-thinking questions and new problems.

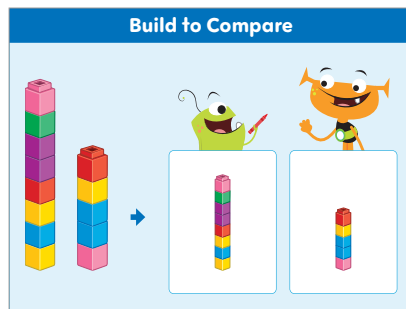
Apply It problems and activities are found in every lesson and encourage students to solve the problems flexibly using any strategy. (Grade 1)

Teacher Digital Experience



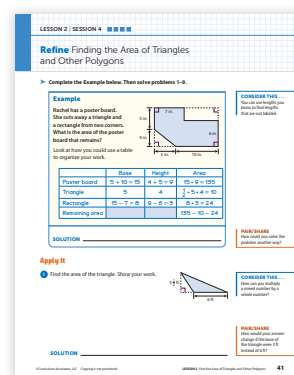
Assignable Interactive Digital Practice

Interactive Digital Practice is assignable and auto-graded digital practice that reinforces understanding. Teachers receive performance reports, while students receive immediate, meaningful feedback to keep them on track.



Centers Library

Centers offer opportunities for students to reinforce concepts and skills and build fluency. Once students are familiar with a center, the activity can be used independently with different content as the year progresses.



Fluency and Skills Practice

Fluency and Skills Practice is an optional targeted practice that uses patterns and repeated reasoning to build mathematics skills. Available as a student workbook or as PDFs on the Teacher Toolbox.

Unit-Level Practice Opportunities

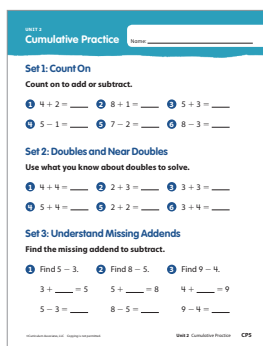
Teacher Digital Experience



Unit Games

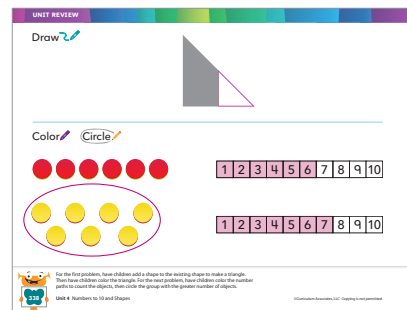
Unit Games are a fun way to review unit content.

Student Worktext



Culmulative Practice

Spiral Review and Cumulative Practice is available in every unit. Students revisit previously learned content to deepen their understanding and retention.

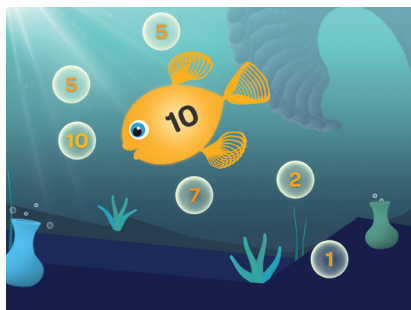


Unit Review

Unit Review is additional practice at the end of each unit that reviews mathematical concepts from every lesson in the unit.

Ongoing Practice Opportunities

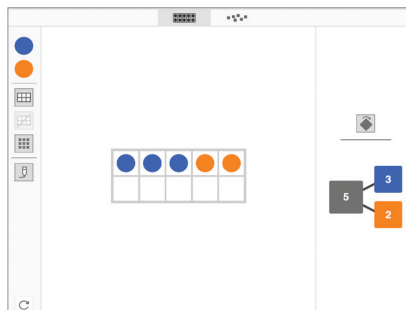
Teacher Digital Experience



Grade Level Games

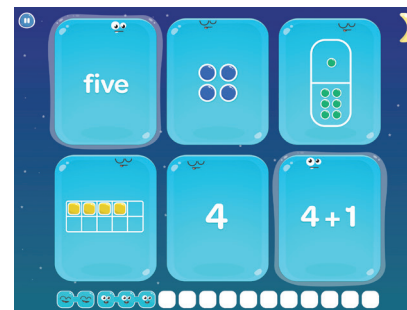
Grade Level Games help students build fluency and understanding of critical concepts.

Student Bookshelf



Digital Math Tools

Digital Math Tools allow students to explore mathematical concepts using multiple models.



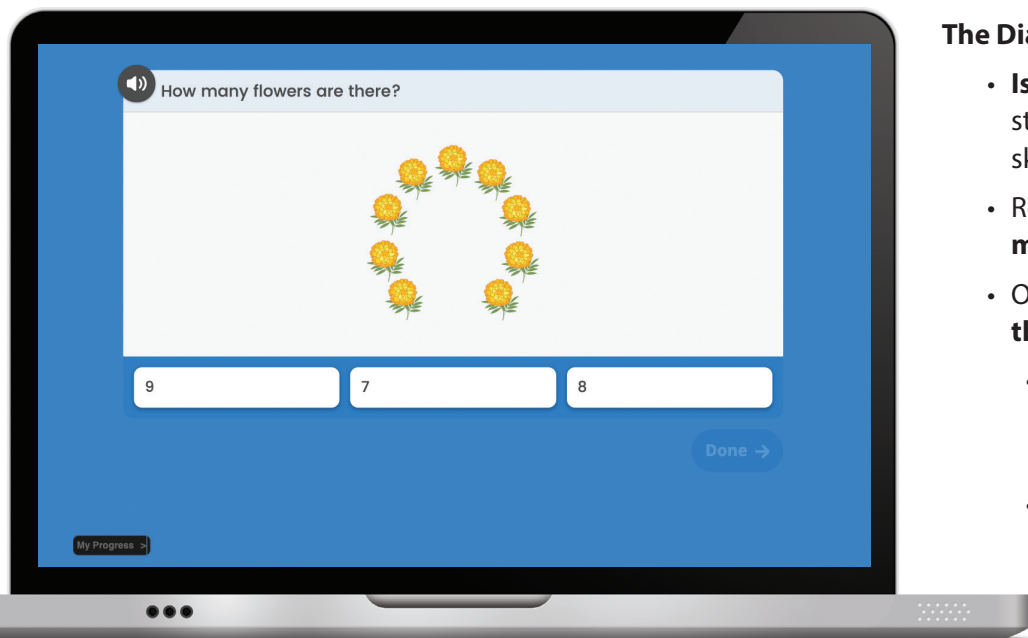
Learning Games

Learning Games offer a multisensory approach to engaging students in fluency practice in a low-stakes setting.

See What They Know

Classroom Mathematics California includes print and digital assessments to understand student learning and inform next instructional steps, including differentiation.

Assess Prerequisite Skills

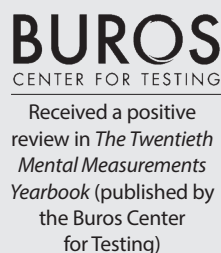


The Diagnostic, a prerequisite screener:

- **Is online, adaptive,** and pinpoints students' strengths and needs across all skills and domains
- Replaces unit assessments, which means **more time for teaching**
- Offers validity and reliability **vett**ed by **third parties**
 - **Criterion referenced:** Compare students' performance against the standards.
 - **Norm referenced:** Compare students' performance to other students.

State and Nationally Recognized

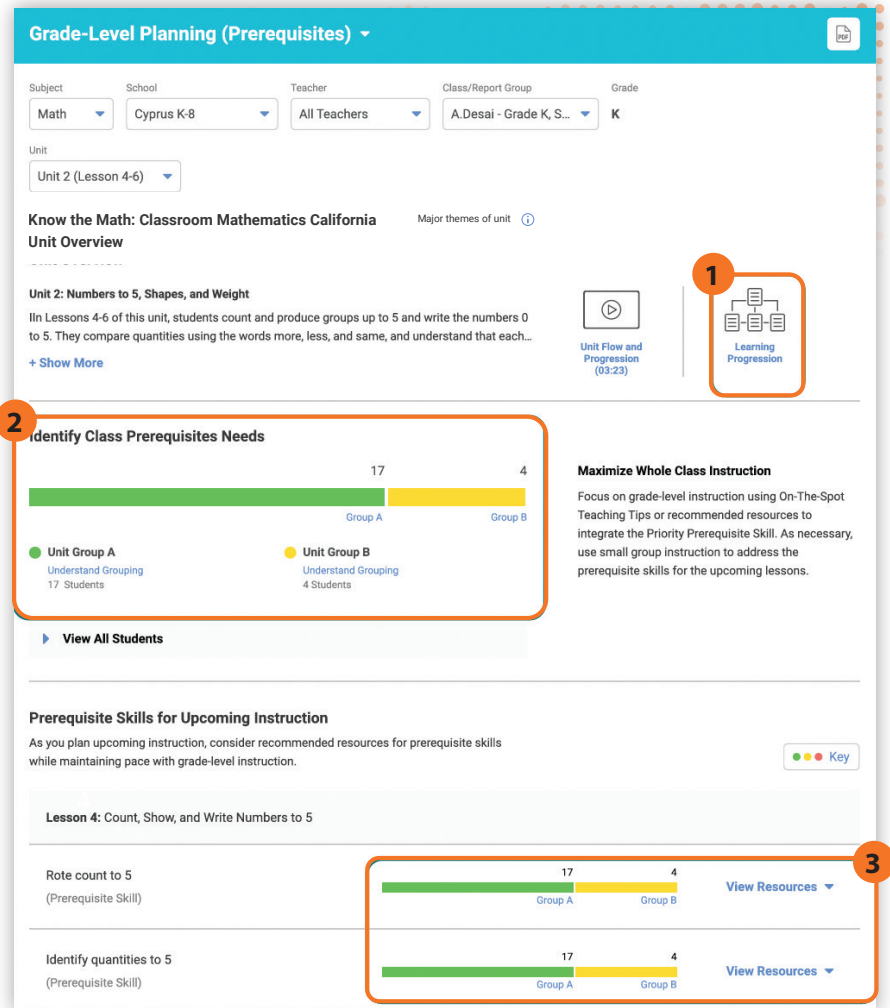
Numerous third parties have deemed the Diagnostic as a valid and reliable academic screener and progress monitoring tool.



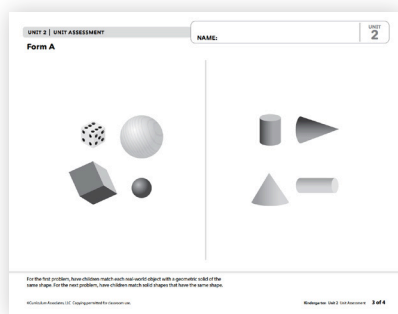
Accelerate Learning for All Students

The Grade-Level Planning (Prerequisites) report helps you understand every student's needs as related to upcoming grade-level lessons.

- 1 Learning Progression:** Understand the progression of standards going back two-plus years.
- 2 Whole Class Guidance and Pacing Support:** Integrate and scaffold prerequisite skills into the grade-level content scope and sequence.
- 3 Access curated teacher-led, small group, and independent resources** for individual skills at point of use.

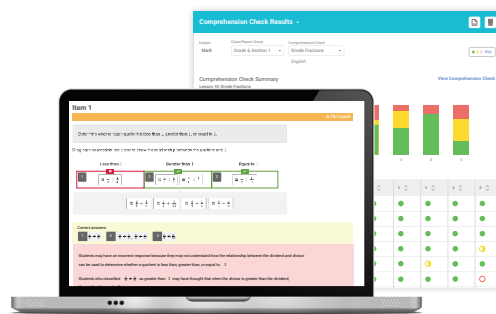


Assess Student Understanding and Monitor Progress



Paper/Pencil Lesson Quizzes and Unit Assessments

- Download as PDF or editable Microsoft Word® document.
- Assign resources to Google Classroom or any learning management system (LMS).



Comprehension Checks

- Comparable to Lesson Quizzes and Unit Assessments
- Assign premade version or customize to add/remove questions.
- Auto-graded; provides instructional next steps



Activity-Based Assessments (Grade K Only)

Assess students' understanding in a developmentally appropriate, low-stakes setting with a small group activity. Use the recording sheet to document observations.

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Differentiation

Classroom Mathematics California integrates UDL principles to create instructional goals, methods, materials, and assessments that work for differentiating instruction for all students.

Grade-Level Planning (Prerequisites)

Subject: Math | School: Cyprus K-8 | Teacher: All Teachers | Class/Report Group: A.Desai - Grade K, S... | Grade: K

Unit: Unit 2 (Lesson 4-6)

Know the Math: Classroom Mathematics California Unit Overview

Unit 2: Numbers to 5, Shapes, and Weight

In Lessons 4-6 of this unit, students count and produce groups up to 5 and write the numbers 0 to 5. They compare quantities using the words more, less, and same, and understand that each...

[+ Show More](#)

Identify Class Prerequisites Needs

17 4

Group A Group B

Unit Group A: Understand Grouping (17 Students)

Unit Group B: Understand Grouping (4 Students)

[View All Students](#)

Maximize Whole Class Instruction

Focus on grade-level instruction using On-The-Spot Teaching Tips or recommended resources to integrate the Priority Prerequisite Skill. As necessary, use small group instruction to address the prerequisite skills for the upcoming lessons.

1 Unit Flow & Progression Videos appear in each unit and show the flow and progression of the mathematics concepts within that unit.

2 Embedded Recommended Resources save time searching for small group resources to maintain pace with on-grade level instruction.

Grade-Level Planning (Prerequisites)

[Back](#)

Recommended Resources for Prerequisite Skill:

Identify more and less (Priority Prerequisite Skill)

Supporting: Lesson 5: Compare Numbers to 5, Lesson 6: Three-Dimensional Shapes and Weight, (Grade K, Unit 2)

View Resources: All Students

17 4

Group A Group B

Focus on grade-level instruction, emphasizing connections to prerequisite skills. Consider small group instruction as time permits.

Prerequisite skill learning progression for Lesson 5, 6

Emerging K: Identify More and Less (Priority Prerequisite Skill)

2

Teachers-led Small Groups

[Identify More and Less](#)

Independent Reinforcement

Learning Games

[Hungry Guppy](#)

[Bounce](#)

Observe and Evaluate Student Understanding Using:

LESS FORMAL

Number Sense Start Activities
Try-Discuss-Connect Framework
Language Routines
Apply It Activities
Teacher-Led Differentiation
Ask/Listen Fors

MORE FORMAL

Math Reflection
Practice
Close Reflection

Grade-Level Planning (Prerequisites)
Comprehension Checks
Activity-Based Assessments
Lesson Quizzes
Unit Assessments

Formal and informal assessment options gather data that will inform differentiation.

LESSON 2 **SESSION 2 DEVELOP**

Centers, Differentiation, and Practice

CENTERS | Student-Led Practice
Apply It Problems

2 **Apply It Problems**

1 Public writes 7 stories. Then he writes 2 more. How many does he write in all?
 $7 + 2 = 9$

2 2 balls are in a basket. Samir puts in 4 more. How many balls are there now?
 $2 + 4 = 6$

3 Jacob sees 4 fish. Then he sees 3 more. How many fish does he see in all?
 $4 + 3 = 7$

These problems are an opportunity for guided or center-based practice. As children work, remind them to use the 10-frames to model the problems. Make tools from the Math Toolkit available.

Session Centers
Add and Color
Children strengthen understanding of addition by adding up to 10 using a 10-frame.

Centers Library
SKILL REVIEW: Sort It Out
FLUENCY: Counting Collections

36 **Lesson 2 Add and Subtract Within 10** ©Curriculum Associates, LLC. Copying is not permitted.

DIFFERENTIATION | Teacher-Led Small Group

Differentiate in small groups to support needs observed during the Apply It activity.

RETEACH

Use with children who need additional support with addition within 10.

Materials: two-color counters (10 per child), 10-Frames Workmat (1 per child)

- Tell children an addition story using 2 and 6, such as: *2 friends play in the park. 6 more join them. How many friends are there now?*
- Have children place red counters in a 10-frame to show the 2 friends at the start.
- Then have children place yellow counters in the 10-frame to show the 6 friends who join.
- Ask how children can find how many counters they have in all.
- Write the equation $2 + 6 = \underline{\quad}$ on the board. Invite a child to complete the equation and tell how many friends play in the park now.
- Repeat using different numbers with a total of 10 or less.

EXTEND

Use with children who have demonstrated ability to represent and solve addition problems.

Materials: Number Cards Deck, numbers 5 to 10 (1 set per group)

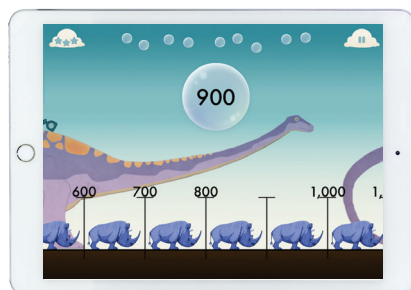
- Read this story aloud: *There are 3 logs in a pond. Each log has one or more frogs on it.*
- Have one child choose a number card to find how many frogs are in the pond.
- Then have each child work independently to decide how many frogs are on each of the 3 logs.
- Ask children to share their work and explain how they know that the total on the logs is the same as the number of frogs in the pond.
- Then challenge children to find as many different ways as they can to arrange the frogs on 3 logs.

Just-in-Time Supports

Reteach or extend learning using the activities provided under the purple Differentiation heading. Dedicated class time is built into the schedule so students can work in centers while teachers lead small group differentiation.

Differentiate after a Lesson

Examples include:



Independent Reinforcement

Learning Games offer fun, challenging, and personalized practice and help students develop a growth mindset.

Tools for Instruction

Solutions of Systems of Linear Equations

Learning Objectives

Students will be able to:

- Graph a system of two linear equations in two variables on a coordinate plane.
- Determine the solution to a system of two linear equations in two variables by graphing.
- Classify a system of two linear equations in two variables as consistent or inconsistent.

Key Concepts

A system of two linear equations in two variables is a set of two equations that have the same variables. The solution to a system of two linear equations in two variables is the point where the two lines intersect.

Key Vocabulary

Consistent: A system of two linear equations in two variables is consistent if the two lines intersect at one point.

Inconsistent: A system of two linear equations in two variables is inconsistent if the two lines do not intersect.

Dependent: A system of two linear equations in two variables is dependent if the two lines are the same line.

Independent: A system of two linear equations in two variables is independent if the two lines intersect at one point.

Reteach

Tools for Instruction are mini-lessons for reteaching lesson concepts.



Enrichment Activity

LESSON 12

System Solutions

Task Challenge

Use graphing technology to explore solutions to systems of linear equations.

1 Open the graphing technology program.

2 Type in the first equation in the field where the equations are entered.

3 Type in the second equation in the field where the equations are entered.

4 Look at the graph to determine if the system of equations has a solution.

5 $y = x + 5$
 $y = x + 3$
Does this system have a solution? If so, what is the solution? Explain.

6 $y = 2x - 1$
 $y = 3x + 4$
Does this system have a solution? If so, what is the solution? Explain.

7 $y = 3x + 1$
 $2y = 6x + 2$
Does this system have a solution? If so, what is the solution? Explain.

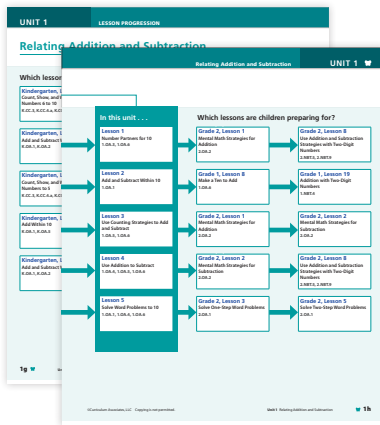
Page 1 of 2

Extension

Enrichment Activities challenge students with higher-order thinking tasks.

Support That Works for You

Find a range of professional learning materials, both in print and digitally, to enrich instruction for a wide range of learners.



UNIT 1 PROFESSIONAL LEARNING
Supporting Math and Academic Vocabulary Development

Children use both course-specific and academic vocabulary to learn mathematics.

Academic Vocabulary

- At the beginning of each unit, children are introduced to academic vocabulary words that will be used throughout the unit.
- Children are encouraged to use these words in their own words.
- Children are encouraged to use these words in their own words.
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- Children are encouraged to use these words in their own words.

Math Vocabulary

- Children are introduced to math vocabulary words that will be used throughout the unit.
- Children are encouraged to use these words in their own words.
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- Children are encouraged to use these words in their own words.

UNIT 1 MATH BACKGROUND
Models, Progressions, and Teacher Tips

Children learn to think flexibly about part-whole relationships.

Unit Themes

- Children learn to think flexibly about part-whole relationships.
- Children learn to think flexibly about part-whole relationships.
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- Children learn to think flexibly about part-whole relationships.

Prior Knowledge

- Children learn to think flexibly about part-whole relationships.
- Children learn to think flexibly about part-whole relationships.
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Unit Flow and Progression

- Children learn to think flexibly about part-whole relationships.
- Children learn to think flexibly about part-whole relationships.
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- Children learn to think flexibly about part-whole relationships.
- Children learn to think flexibly about part-whole relationships.

Lesson Progression

See the progression of previous, current, and future lessons to help students develop conceptual understanding.

Professional Learning

Each unit provides a different professional learning article with guidance and support for teachers.

Math Background

Review the Mathematical Models and Strategies used in the unit to better understand how models fit into the learning progression.

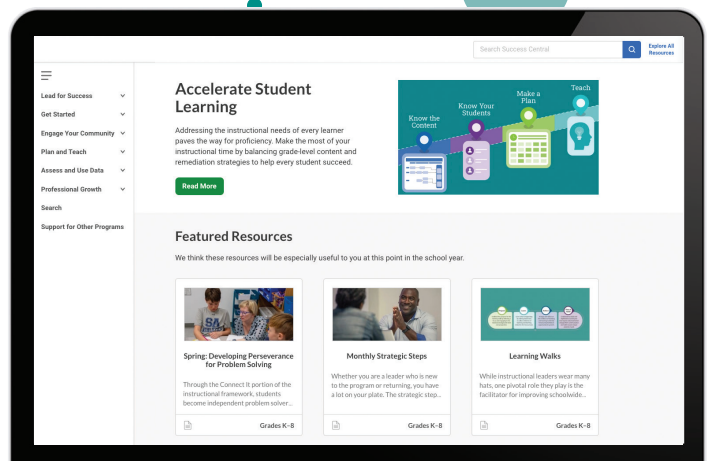


Pacing Video Series

Stay on track to deliver all grade-level content by the end of the year.

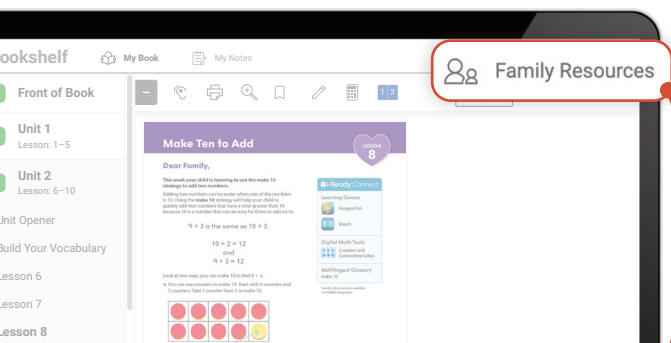
Implementation Guidance and More

From how-to tips to planning tools, get on-demand access to everything teachers need on *i-Ready Success Central*.



Empowering Families to Support Students at Home

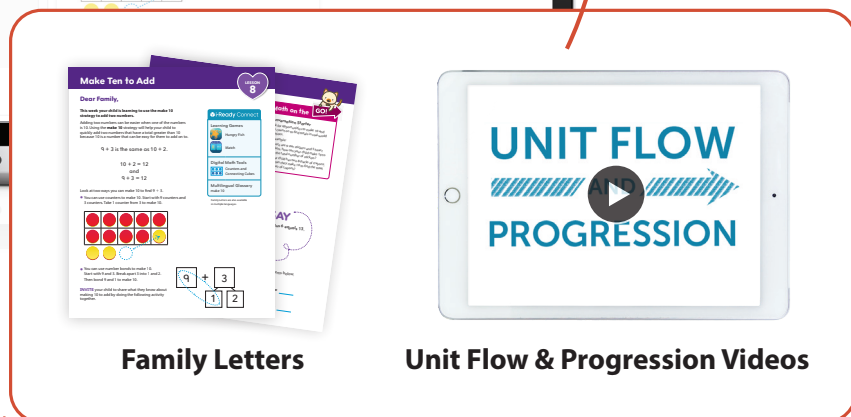
Give families the resources at home to extend learning beyond the classroom.



Resources to Help Teachers Engage Families

Find resources on Success Central that make family communication easier, including:

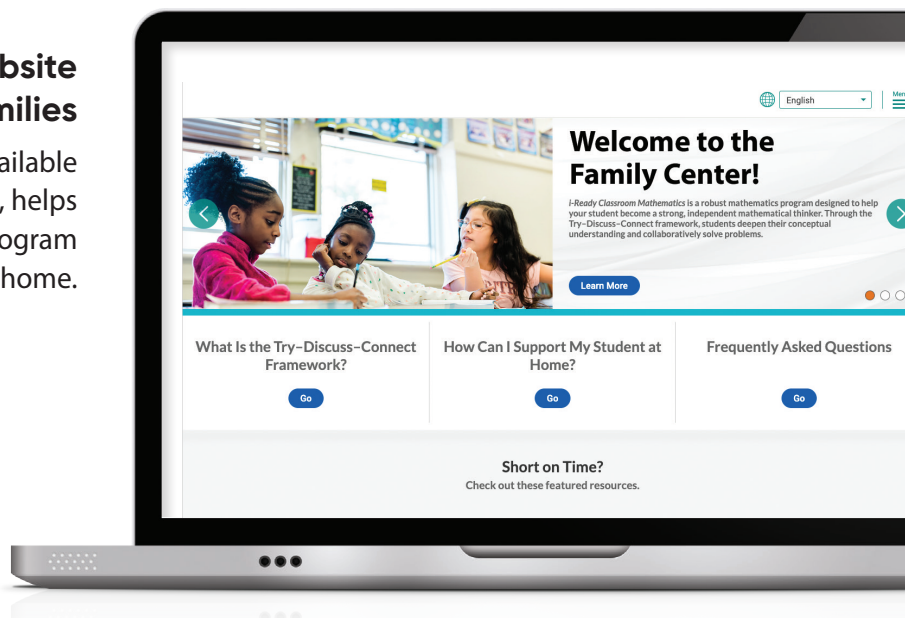
- **Introduction Letter:** Introduce families to the curriculum.
- **Family Night Presentation:** Give families an overview of the program.



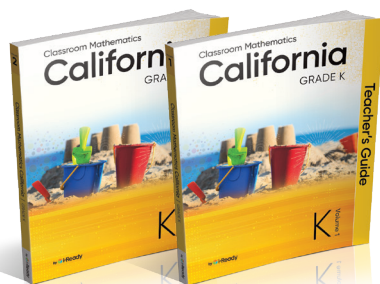
- The **Family Resources tab** on the Student Bookshelf, where online access for student resources can be found, has **Family Letters** in 11 languages for every lesson that describe the mathematics being learned in family-friendly terms and offer an activity related to the lesson.
- The **Unit Flow & Progression Videos** help families support their student with the ideas and concepts taught in the curriculum. Closed captioning is available in English and Spanish.

Support Website Dedicated to Families

The Family Center, available in English and Spanish, helps families explore the program and provide support at home.



Teacher Components



Volumes
1 and 2

Teacher's Guide ^{E/S}

Two volumes include discourse-based instructional support, math background, and embedded professional learning.



Centers Library ^{E/S}

Centers Library provides teachers with a set of repeatable centers to offer students consistent opportunities for practicing and reviewing key skills throughout the year.

Anytime Professional Learning

Success Central, the implementation support site, provides:

- Training videos
- Planning tools
- Implementation tips
- Whitepapers
- Discourse support ^{E/S}
- Digital courses

Teacher Digital Experience includes:

Teacher Toolbox

- Interactive Tutorials ^{E/S}
- Digital Math Tools
- Presentation slides ^{E/S}
- Fluency and Skills Practice** ^{E/S}
- Learning Activities
- Tools for Instruction ^{E/S}
- Enrichment Activities ^{E/S}
- Print and activity-based assessment resources ^{E/S}
- Assessment Practice Book ^{E/S} (also available in print)
- Unit Flow & Progression Videos*
- Literacy Connections ^{E/S}
- Grade Level Games and Unit Games ^{E/S}
- Centers Library ^{E/S}
- Integrating Play into Kindergarten ^{E/S}

^{E/S} = Available in English and Spanish

*Closed captioned in English and Spanish

**Fluency and Skills Practice available as a student workbook for additional purchase

Interactive Practice and Report ^{E/S}

- Assignable online practice provides students with immediate, meaningful feedback.
- Report shows student performance.

Learning Games Reports

- Identify playtime breakdown for each game for a selected time interval.
- See a real-time snapshot of performance on the standards.
- Track students' choices with respect to content that is challenging for them:
 - Growth Mindset
 - Productive Strategy
 - Confidence
 - Self-Regulation

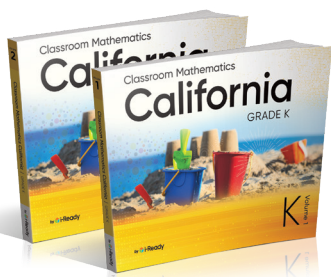
Comprehension Checks and Reports ^{E/S}

- Save time with these assignable, auto-graded assessments comparable to the print Lesson Quizzes and Unit Assessments.
- Use the data in the reports to determine the next steps for differentiation.

Grade-Level Planning (Prerequisites) Report

Use the data and resources outlined in the Grade-Level Planning (Prerequisites) report to address unfinished learning, either during small group instruction or whole class instruction, depending on the needs of the class.

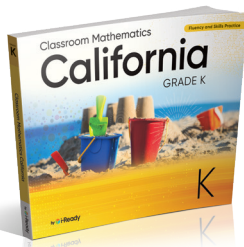
Student Components



Volumes
1 and 2

Student Worktext

Students take ownership of their learning as they work through rich tasks and practice new skills in each lesson.



Fluency and Skills Practice Book

Targeted practice that uses patterns and repeated reasoning. Available on Teacher Toolbox as PDFs and editable files assignable to any LMS, including Google Classroom.



Hands-On Materials

Classroom Manipulative Kits and Individual Student Manipulative Bags are available.

Student Digital Experience includes:

Student Bookshelf

This component provides online access to the Student Worktext along with many additional digital features that make it easy to navigate and personalize learning:

- Note-taking
- Text-to-speech
- Highlighting
- Calculator
- Multilingual Glossary

Learning Games

Interactive Learning Games help students gain a rich conceptual understanding of mathematics concepts, improve fluency, and develop a positive relationship to challenge.

Interactive Digital Practice

This assignable, digital resource provides practice that reinforces understanding. Students receive immediate, meaningful feedback to keep them on track.

Digital Math Tools

A full suite of Digital Math Tools allows students to explore mathematical concepts using multiple models.

Family Resources

- Family Letter for every lesson 
- Unit Flow & Progression Videos*

 = Available in English and Spanish

*Closed captioned in English and Spanish



Classroom Mathematics California

Classroom Mathematics California is rooted in a history of success. It is built on the foundation of *i-Ready Classroom Mathematics* ©2024 Edition, which earned **perfect scores** on EdReports. This history, combined with capturing the vision of the California framework, ensures high-quality instructional materials for California students.



Learn More at
ClassroomMathematicsCalifornia.com

