

Classroom Mathematics
California

Providing Support in
Building Thinking Classrooms



How Classroom Mathematics California Supports Building Thinking Classrooms

Classroom Mathematics California is designed to support teachers looking to align their instruction with the 14 key practices outlined by Peter Liljedahl in his book *Building Thinking Classrooms in Mathematics, Grades K–12*. Built into the program, teachers can seamlessly integrate these practices, enabling them to foster an environment in which students engage in deeper, more meaningful mathematical learning. This will help students think critically, collaborate effectively, and develop a strong foundation in mathematics.



Explore below how the 14 practices are woven throughout *Classroom Mathematics California*.

1 Thinking Tasks

Start problems, **Try It** problems, and **Math in Action** lessons are just a few of the rich thinking tasks available in *Classroom Mathematics California*.

START **DEVELOP DATA LITERACY**

DATA TALK
Ask students what they notice and wonder.
See Slide Notes.

Background
This display shows a stage and seats arranged for a performance. Audience members choose their seats when they buy tickets. The display shows seats already sold in gray and available seats in green.

WHY? Support students in using their understanding of multiplication to interpret a display.

Start problems: By launching the lesson with no explicit pre-instruction, teachers give students the opportunity to think critically, collaborate, and engage in meaningful mathematical discourse from the very beginning.

Try It problems promote productive struggle, perseverance, and flexible thinking. Students engage with both contextual and symbolic problems, choosing their own tools, representations, and strategies. These tasks allow students to make sense of the mathematics and experience real problem solving before instruction begins.

Most Try It problems can also be delivered verbally, as written or with small adjustments, and are intended to start the class.

Math in Action lessons offer rich tasks that let your students apply what they've learned in meaningful, real-world ways—deepening their understanding.



Liljedahl, P. (2021). *Building thinking classrooms in mathematics, grades K–12*. Sage Publications, Inc.
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2 Forming Collaborative Groups

Any time you use small group opportunities in *Classroom Mathematics California* is a chance to apply random groupings. This simple strategy helps break up social patterns, increases collaboration, and ensures all students engage with a variety of peers. Over time, random grouping builds a stronger sense of community and supports an equitable, student-centered learning environment.

3 Where Students Work

Classroom Mathematics California doesn't dictate where students complete tasks, giving teachers the flexibility to adapt based on their classroom needs. Using vertical, non-permanent surfaces such as whiteboards or wall charts for **Try It** problems, or any task, can transform the learning environment.

TRY IT

SMP 1, 2, 4, 5, 6

Make Sense of the Problem

Before students work on Try It, use **Say It Another Way** to help them make sense of the problem. Ask a student to paraphrase the problem. Listen for understanding that they are being asked whether Amy's number of pennies is prime or composite and whether Tyrell's number of pennies is prime or composite.

LESSON 8

Develop Prime and Composite Numbers

SESSION 4 • • • • •

Read and try to solve the problem below.

Amy has 36 pennies. Tyrell has 23 pennies. Are these numbers prime or composite?

TRY IT

Math Toolkit

- pennies
- counters
- unit tiles
- grid paper

When all student thinking is visible, it promotes equity by reducing status differences and gives all students' work a voice. It also allows teachers to more easily observe, select, and sequence strategies while giving students the chance to learn from one another's approaches in real time.

4 Arranging Furniture

Classroom Mathematics California doesn't require a specific classroom setup to succeed. However, when you reconfigure your classroom to be student centered, you'll naturally increase how much your students talk and decrease how much you do. That shift aligns powerfully with the program's discourse-based approach and supports deeper learning. Each day, you have flexible options to include rotations that offer differentiated support. The program provides ready-to-use resources for teacher-led groups, partner work, and independent stations, making it easy to meet students where they are.

In Grades K and 1, you can bring counting to life through playful, daily routines that use movement, rhythm, and rhyme. These repeated experiences, along with lesson- and center-based counting opportunities, help your students internalize the counting sequence, recognize number patterns, and develop a strong foundation in the base-10 system.

5 How to Answer Questions

The discourse-based approach in *Classroom Mathematics California* encourages students to ask Keep Thinking questions—those that extend their reasoning and reduce dependence on the teacher for next steps. Instead of waiting for your input, students are guided to engage with one another and take ownership of their learning.

Support Partner Discussion prompts play a key role in this shift. They spark immediate peer-to-peer dialogue, promote shared responsibility, and help students stay engaged, even when the math gets challenging.

DISCUSS IT

SMP 3, 6, 7, 8

Support Partner Discussion

Encourage students to use the terms *factor pair*, *prime*, and *composite* as they discuss their solutions.

Support as needed with questions such as:

- *Did you draw a picture or make a model to solve the problem? Why or why not?*
- *How is your solution method the same or different from your partner's solution method?*

Language routines like Turn and Talk, the Four Rs, and Three Reads help students approach problems with enough information and reduce habits of asking Proximity and Stop Thinking questions. While designed for students, the **Math Discourse Cards** also support you in handling these types of questions by offering guidance on how to respond with more questions—a strategy encouraged in *Building Thinking Classrooms* to promote deeper thinking and independence.

The **sentence starters** help students rephrase their questions into Keep Thinking prompts, reinforcing a classroom culture in which students rely on each other, stay curious, and keep thinking through challenges.

DISCUSS IT

Ask your partner: Why did you choose that strategy?

Tell your partner: The strategy I used to find the answer was . . .

6 When, Where, and How Tasks Are Given

Start and **Try It** problems are designed to be given at the beginning of the lesson without prior instruction, making them an ideal match for this practice. These tasks spark curiosity, promote student thinking from the outset, and shift the cognitive load to learners right away.

To enhance your task launch, consider incorporating elements from the **Connect to Culture** section in *Classroom Mathematics California*. This resource provides meaningful context that supports a storytelling approach—an essential part of engaging students in a *Building Thinking Classrooms* environment.

Connect to Culture

➤ Use these activities to connect with and leverage the diverse backgrounds and experiences of all students. Engage students in sharing what they know about contexts before you add the information given here.

Session 1 Use with Try It.

Artists in Puebla, Mexico have made Talavera tiles and pottery for centuries. This brightly colored style of pottery takes its name from a region of Spain that produces similar designs. Today, Talavera tiles decorate homes and other buildings in Mexico and across the United States. Ask students to share where they have seen Talavera or other colorful tiles.

Session 3 Use with Apply It problem 4.

Steamed siopao (SHOH pow) buns, a common snack in the Philippines, can be filled with spiced pork or beef and/or a variety of other fillings. Ask students whether they have eaten siopao or similar buns.

Session 4 Use with Apply It problem 4.

Juneteenth celebrates the end of slavery in the United States. The name Juneteenth refers to June 19, 1865, when the news that enslaved people were free finally reached the state of Texas, 2½ years after the Emancipation Proclamation was issued. Today, Juneteenth is observed in communities throughout the United States. Invite students to share any traditions their families have for celebrating Juneteenth.

Protocols for Engagement	Where in Lesson	Validates
Stand and Share Students stand when they have something to share with the class.	Session 1 Connect It: Look Ahead	spontaneity, movement, subjectivity, connectedness
Pass It On Students call on each other to answer a question or prompt, adding on or respectfully critiquing one another's responses. A soft object can be tossed to "pass it on."	Session 3 Discuss It: Facilitate Whole Class Discussion	collective success, spontaneity, connectedness

LESSON 8

Explore Multiples and Factors

In previous lessons, you multiplied and divided numbers. Now you can use multiplication and division to find factors and multiples and learn a way to classify a number by how many factors it has. Use what you know to try to solve the problem below.

A worker plans to put several rows of Mexican Talavera tiles on a wall. Each row has 10 Talavera tiles. How many Talavera tiles could be on the wall?

TRY IT

**Math Toolkit**

- counters
- number lines
- index cards
- sticky notes

Session 1 Use with Try It.

Artists in Puebla, Mexico have made Talavera tiles and pottery for centuries. This brightly colored style of pottery takes its name from a region of Spain that produces similar designs. Today, Talavera tiles decorate homes and other buildings in Mexico and across the United States. Ask students to share where they have seen Talavera or other colorful tiles.

Math in Action problems are also well suited to this approach. Written in a narrative style, they naturally align with the goal of drawing students into the mathematics through real-world, story-driven scenarios.

7 What Homework Looks Like

Any questions you'd typically assign as homework can be reframed as **Check Your Understanding** tasks and brought into class time. Setting aside time for students to work on these problems during the lesson allows you to support their thinking in the moment and gather meaningful formative data.

Questions from the **Apply It, Refine,** and **Additional Practice** sections are all well suited for this purpose. They offer a range of difficulty and depth, making it easy to tailor your selection to meet students where they are while reinforcing key content.

8 Fostering Student Autonomy

As a discourse-based program, *Classroom Mathematics California* is designed to create space for student voices and fosters autonomy by encouraging you to adopt a key principle: Don't say anything that another student could say.

One of the most effective tools for building this culture of student-driven discourse is the **Discuss It** prompt.

These prompts, which span Grades K–8, are developmentally designed to support meaningful student-to-student conversations about the math, shifting the focus from teacher explanation to peer-to-peer reasoning.



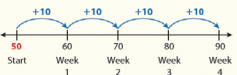
Name: _____ LESSON 9 SESSION 2

Practice Number Patterns

Study the Example showing how to use a pattern on a number line to solve a word problem. Then solve problems 1–8.

EXAMPLE

Sabeen saves \$10 from her weekly babysitting job for 4 weeks. She starts with \$50 in savings. How much does Sabeen have in savings at the end of 4 weeks?



Rule: add 10
Pattern: 50, 60, 70, 80, 90
 Sabeen has \$90 in savings at the end of 4 weeks.

Eduardo is learning to play the Puerto Rican cuatro. A cuatro is similar to a guitar. He wants to practice 5 minutes longer each day than the previous day this week. Eduardo practices for 20 minutes on Monday.



1 Complete the table to show how many minutes Eduardo practices each day this week.

Day	Monday	Tuesday	Wednesday	Thursday	Friday
Number of Minutes	20	25	30	35	40

2 Complete the sentence.
 Eduardo practices for 40 minutes on Friday.

9 Using Hints and Extensions

Creating a sequence of curriculum tasks that gradually increase in challenge, known as thin slicing, helps keep your students in a productive flow. This approach allows learners to build momentum, experience success, and stay engaged without becoming overwhelmed or disengaged.

You'll find excellent sources for building thin-sliced task sequences in the **Fluency and Skills Practice** pages, which offer a wide range of problems. The **Additional Practice** pages (i.e., green pages in the Student Worktext), with problems labeled Basic, Medium, and Challenge, are also ideal. Similarly, **Refine** session questions, labeled with Depth of Knowledge (DOK) levels, provide a structured way to layer complexity into your task sequences.

10 Consolidating a Lesson

Consolidation is a core part of the **Try–Discuss–Connect** framework. Helping your students merge their thinking with classmates' ideas and new models is central to *Classroom Mathematics California*. One of the most effective ways to consolidate through student work is by thoughtfully selecting and sequencing student strategies.

Resources like **Picture It**, **Model It**, and **Connect It** questions provide clear guidance on what to focus on during consolidation conversations, teacher scribing, or guided gallery walks. These supports help you spotlight the mathematical thinking that matters most.

During consolidation, you might also surface common misconceptions your students encountered—not to call out individuals but to spark rich discussion and reinforce deeper understanding. The **Common Misconceptions** in *Classroom Mathematics California* give you helpful Look Fors and talking points you can use for Turn and Talks or whole class reflections.



Common Misconception Look for students who incorrectly identify 23 as a composite number and 36 as a prime number because they confuse the terms *prime* and *composite*.

Once you've created your thin-sliced task set—drawing from any of the sources above—you can increase student ownership by writing each task on banners and posting them on vertical, non-permanent surfaces. This allows students to select their next task independently, reducing reliance on you and supporting autonomy.

11 How Students Take Notes

Making notes, as opposed to taking notes, collaboratively gives students the opportunity to participate and contribute as opposed to being a passive participant. The **Example** question at the start of each **Refine** session is an ideal choice for the fill-in-the-blank examples referenced in *Building Thinking Classrooms*. It's already structured for easy adaptation into both a fill-in-the-blank format and a Type 1 task. You can also pull Type 1 tasks from **Additional Practice** questions labeled Basic and **Refine** questions marked DOK 1.

When selecting a Type 2 task, both **Additional Practice** and **Refine** questions—especially those with clear difficulty and DOK labels—offer strong options. These same pages also give students a range of problems they can choose from when selecting their own tasks for Quadrant C.

LESSON 8

Refine Multiples and Factors

SESSION 5

Complete the Example below. Then solve problems 1–9.

EXAMPLE

School pictures have 9 pictures on a sheet. Bruno needs 45 pictures for his family and classmates. Can he get exactly 45 pictures in sheets of 9? If so, how many sheets does he need?

Look at how you could show your work using a picture.

9	18	27	36	45
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Solution

PAIR/SHARE

Any number that has 0 or 5 in the ones place is a multiple of 5.

How else could you solve this problem without using models?

APPLY IT

1 There are 12 levels in Caleb's new video game. Suppose he plays the same number of levels each day. What are all the possibilities for the number of days Caleb could play the game without repeating a level? Show your work.

Solution

PAIR/SHARE

I notice that 2 is a factor of every even number!

Why do you need to find the factors of 12 to solve this problem?

UNIT 2

Self Reflection

In this unit you learned to ...

Skill	Lesson
Multiply and divide to solve comparison problems, for example: 28 is 4 times as many as 7.	6, 7
Identify factor pairs and multiples, for example: 4 and 5 are a factor pair for 20, and 42 is a multiple of 6.	8
Identify prime or composite numbers, for example: 16 is composite.	8
Describe rules in number and shape patterns, for example: the pattern "3, 10, 17, 24, ..." has the rule "add 7" and the numbers go back and forth between odd and even.	9
Model and solve multi-step word problems using equations, for example: $(6 \times 3) - 11 + 2 = 9$.	10
Describe how models and equations represent situations using academic terms such as <i>multiple</i> , <i>unknown</i> , <i>times as many as</i> , <i>bar model</i> , and <i>array</i> .	6, 7, 10

Think about what you learned.

Use words, numbers, and drawings.

- I am proud that I can ...
- I would like to learn more about how to ...
- A question I still have is ...

12 Choosing What to Evaluate

Classroom Mathematics California puts a strong emphasis on helping you communicate the behaviors you value and guide students to reflect on their own actions. This is built into the **Self Reflection** at the end of each unit, where students are encouraged to evaluate their growth beyond academic content.

Students are also asked to make those **Big Idea** connections during the Self Reflection.

Big Idea Reflections

MAKE CONNECTIONS

Thinking about Big Ideas helps students organize their knowledge and connect mathematical understandings.

- Have students return to the **Big Ideas Organizer** to review what they recorded. Revisit class anchor charts.
- Ask questions that support looking at one Big Idea across lessons. For example, ask: *How did you use Number Flexibility to 100 for All Four Operations to help you understand Lessons 5–9 and Lesson 12?*
- Ask questions that support making connections among Big Ideas. For example, ask: *How did working with Square Tiles help you increase your Number Flexibility to 100 for All Four Operations?*

Additionally, the Teacher's Guide offers powerful prompts, focused on **Individual and Social Responsibility**, that you can use to check in on student progress with these essential non-curricular behaviors.

Individual and Social Responsibility

ASK We have been talking about making choices that help you learn math. What is going well for you as a math learner?

LISTEN FOR Students may describe managing their own learning by asking questions when they are confused and persisting with challenging work.

ASK What is going well for you when you work with other students to learn math?

LISTEN FOR Students may describe working well with others by taking turns, listening carefully, and helping each other.



LESSON 8

Overview | Multiples and Factors

CALIFORNIA STANDARDS

Math Focus

4.OA.A.1 Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given whole number. Determine whether a given whole number in the range 1–100 is prime or composite.

See 2012 Converter for developing and applied standards.

SMP 1.4 is reinforced in Try-Discuss Section, see page 14.

SMP 2.7, 7, and 8 are targeted supports.

4.OA.A.1 EL.D.2.4.1, EL.D.2.4.2, EL.D.2.4.3, EL.D.2.4.4, EL.D.2.4.5, EL.D.2.4.6, EL.D.2.4.7, EL.D.2.4.8, EL.D.2.4.9, EL.D.2.4.10, EL.D.2.4.11, EL.D.2.4.12, EL.D.2.4.13, EL.D.2.4.14, EL.D.2.4.15, EL.D.2.4.16, EL.D.2.4.17, EL.D.2.4.18, EL.D.2.4.19, EL.D.2.4.20, EL.D.2.4.21, EL.D.2.4.22, EL.D.2.4.23, EL.D.2.4.24, EL.D.2.4.25, EL.D.2.4.26, EL.D.2.4.27, EL.D.2.4.28, EL.D.2.4.29, EL.D.2.4.30, EL.D.2.4.31, EL.D.2.4.32, EL.D.2.4.33, EL.D.2.4.34, EL.D.2.4.35, EL.D.2.4.36, EL.D.2.4.37, EL.D.2.4.38, EL.D.2.4.39, EL.D.2.4.40, EL.D.2.4.41, EL.D.2.4.42, EL.D.2.4.43, EL.D.2.4.44, EL.D.2.4.45, EL.D.2.4.46, EL.D.2.4.47, EL.D.2.4.48, EL.D.2.4.49, EL.D.2.4.50, EL.D.2.4.51, EL.D.2.4.52, EL.D.2.4.53, EL.D.2.4.54, EL.D.2.4.55, EL.D.2.4.56, EL.D.2.4.57, EL.D.2.4.58, EL.D.2.4.59, EL.D.2.4.60, EL.D.2.4.61, EL.D.2.4.62, EL.D.2.4.63, EL.D.2.4.64, EL.D.2.4.65, EL.D.2.4.66, EL.D.2.4.67, EL.D.2.4.68, EL.D.2.4.69, EL.D.2.4.70, EL.D.2.4.71, EL.D.2.4.72, EL.D.2.4.73, EL.D.2.4.74, EL.D.2.4.75, EL.D.2.4.76, EL.D.2.4.77, EL.D.2.4.78, EL.D.2.4.79, EL.D.2.4.80, EL.D.2.4.81, EL.D.2.4.82, EL.D.2.4.83, EL.D.2.4.84, EL.D.2.4.85, EL.D.2.4.86, EL.D.2.4.87, EL.D.2.4.88, EL.D.2.4.89, EL.D.2.4.90, EL.D.2.4.91, EL.D.2.4.92, EL.D.2.4.93, EL.D.2.4.94, EL.D.2.4.95, EL.D.2.4.96, EL.D.2.4.97, EL.D.2.4.98, EL.D.2.4.99, EL.D.2.4.100, EL.D.2.4.101, EL.D.2.4.102, EL.D.2.4.103, EL.D.2.4.104, EL.D.2.4.105, EL.D.2.4.106, EL.D.2.4.107, EL.D.2.4.108, EL.D.2.4.109, EL.D.2.4.110, EL.D.2.4.111, EL.D.2.4.112, EL.D.2.4.113, EL.D.2.4.114, EL.D.2.4.115, EL.D.2.4.116, EL.D.2.4.117, EL.D.2.4.118, EL.D.2.4.119, EL.D.2.4.120, EL.D.2.4.121, EL.D.2.4.122, EL.D.2.4.123, EL.D.2.4.124, EL.D.2.4.125, EL.D.2.4.126, EL.D.2.4.127, EL.D.2.4.128, EL.D.2.4.129, EL.D.2.4.130, EL.D.2.4.131, EL.D.2.4.132, EL.D.2.4.133, EL.D.2.4.134, EL.D.2.4.135, EL.D.2.4.136, EL.D.2.4.137, EL.D.2.4.138, EL.D.2.4.139, EL.D.2.4.140, EL.D.2.4.141, EL.D.2.4.142, EL.D.2.4.143, EL.D.2.4.144, EL.D.2.4.145, EL.D.2.4.146, EL.D.2.4.147, EL.D.2.4.148, EL.D.2.4.149, EL.D.2.4.150, EL.D.2.4.151, EL.D.2.4.152, EL.D.2.4.153, EL.D.2.4.154, EL.D.2.4.155, EL.D.2.4.156, EL.D.2.4.157, EL.D.2.4.158, EL.D.2.4.159, EL.D.2.4.160, EL.D.2.4.161, EL.D.2.4.162, EL.D.2.4.163, EL.D.2.4.164, EL.D.2.4.165, EL.D.2.4.166, EL.D.2.4.167, EL.D.2.4.168, EL.D.2.4.169, EL.D.2.4.170, EL.D.2.4.171, EL.D.2.4.172, EL.D.2.4.173, EL.D.2.4.174, EL.D.2.4.175, EL.D.2.4.176, EL.D.2.4.177, EL.D.2.4.178, EL.D.2.4.179, EL.D.2.4.180, EL.D.2.4.181, EL.D.2.4.182, EL.D.2.4.183, EL.D.2.4.184, EL.D.2.4.185, EL.D.2.4.186, EL.D.2.4.187, EL.D.2.4.188, EL.D.2.4.189, EL.D.2.4.190, EL.D.2.4.191, EL.D.2.4.192, EL.D.2.4.193, EL.D.2.4.194, EL.D.2.4.195, EL.D.2.4.196, EL.D.2.4.197, EL.D.2.4.198, EL.D.2.4.199, EL.D.2.4.200, EL.D.2.4.201, EL.D.2.4.202, EL.D.2.4.203, EL.D.2.4.204, EL.D.2.4.205, EL.D.2.4.206, EL.D.2.4.207, EL.D.2.4.208, EL.D.2.4.209, EL.D.2.4.210, EL.D.2.4.211, EL.D.2.4.212, EL.D.2.4.213, EL.D.2.4.214, EL.D.2.4.215, EL.D.2.4.216, EL.D.2.4.217, EL.D.2.4.218, EL.D.2.4.219, EL.D.2.4.220, EL.D.2.4.221, EL.D.2.4.222, EL.D.2.4.223, EL.D.2.4.224, EL.D.2.4.225, EL.D.2.4.226, EL.D.2.4.227, EL.D.2.4.228, EL.D.2.4.229, EL.D.2.4.230, EL.D.2.4.231, EL.D.2.4.232, EL.D.2.4.233, EL.D.2.4.234, EL.D.2.4.235, EL.D.2.4.236, EL.D.2.4.237, EL.D.2.4.238, EL.D.2.4.239, EL.D.2.4.240, EL.D.2.4.241, EL.D.2.4.242, EL.D.2.4.243, EL.D.2.4.244, EL.D.2.4.245, EL.D.2.4.246, EL.D.2.4.247, EL.D.2.4.248, EL.D.2.4.249, EL.D.2.4.250, EL.D.2.4.251, EL.D.2.4.252, EL.D.2.4.253, EL.D.2.4.254, EL.D.2.4.255, EL.D.2.4.256, EL.D.2.4.257, EL.D.2.4.258, EL.D.2.4.259, EL.D.2.4.260, EL.D.2.4.261, EL.D.2.4.262, EL.D.2.4.263, EL.D.2.4.264, EL.D.2.4.265, EL.D.2.4.266, EL.D.2.4.267, EL.D.2.4.268, EL.D.2.4.269, EL.D.2.4.270, EL.D.2.4.271, EL.D.2.4.272, EL.D.2.4.273, EL.D.2.4.274, EL.D.2.4.275, EL.D.2.4.276, EL.D.2.4.277, EL.D.2.4.278, EL.D.2.4.279, EL.D.2.4.280, EL.D.2.4.281, EL.D.2.4.282, EL.D.2.4.283, EL.D.2.4.284, EL.D.2.4.285, EL.D.2.4.286, EL.D.2.4.287, EL.D.2.4.288, EL.D.2.4.289, EL.D.2.4.290, EL.D.2.4.291, EL.D.2.4.292, EL.D.2.4.293, EL.D.2.4.294, EL.D.2.4.295, EL.D.2.4.296, EL.D.2.4.297, EL.D.2.4.298, EL.D.2.4.299, EL.D.2.4.300, EL.D.2.4.301, EL.D.2.4.302, EL.D.2.4.303, EL.D.2.4.304, EL.D.2.4.305, EL.D.2.4.306, EL.D.2.4.307, EL.D.2.4.308, EL.D.2.4.309, EL.D.2.4.310, EL.D.2.4.311, EL.D.2.4.312, EL.D.2.4.313, EL.D.2.4.314, EL.D.2.4.315, EL.D.2.4.316, EL.D.2.4.317, EL.D.2.4.318, EL.D.2.4.319, EL.D.2.4.320, EL.D.2.4.321, EL.D.2.4.322, EL.D.2.4.323, EL.D.2.4.324, EL.D.2.4.325, EL.D.2.4.326, EL.D.2.4.327, EL.D.2.4.328, EL.D.2.4.329, EL.D.2.4.330, EL.D.2.4.331, EL.D.2.4.332, EL.D.2.4.333, EL.D.2.4.334, EL.D.2.4.335, EL.D.2.4.336, EL.D.2.4.337, EL.D.2.4.338, EL.D.2.4.339, EL.D.2.4.340, EL.D.2.4.341, EL.D.2.4.342, EL.D.2.4.343, EL.D.2.4.344, EL.D.2.4.345, EL.D.2.4.346, EL.D.2.4.347, EL.D.2.4.348, EL.D.2.4.349, EL.D.2.4.350, EL.D.2.4.351, EL.D.2.4.352, EL.D.2.4.353, EL.D.2.4.354, EL.D.2.4.355, EL.D.2.4.356, EL.D.2.4.357, EL.D.2.4.358, EL.D.2.4.359, EL.D.2.4.360, EL.D.2.4.361, EL.D

- Use basic multiplication facts to list all the factors of a number.
- Use basic multiplication facts to determine whether a number is a multiple of another number.
- Apply understanding of multiples and factors to solving problems.
- Identify a number as prime or composite.

Language Objectives

- Confirm understanding of factors and multiples by explaining how to find them in partner discussions and in writing
- Explain solution strategies using connecting words and phrases, such as *first*, *last*, and *because*.
- Justify solution strategies that use multiples and factors to solve problems.
- Use precise math vocabulary to describe prime and composite numbers.

New *Terms students will begin to use*

composite number a number that has more than one pair of factors.

factor pair two numbers that are multiplied together to give a product.

factors of a number whole numbers that multiply together to get the given number.

multiple the product of a given number and any other whole number.

prime number a whole number greater than 1 whose only factors are 1 and itself.

Review *Terms students comfortably use*

array a set of objects arranged in equal rows and equal columns.

factor a number that is multiplied.

multiplication an operation used to find the total number of items in a given number of equal-size groups.

multiply to repeatedly add the same number a certain number of times. Used to find the total number of items in equal-size groups.

Academic *Terms students hear and use*

repeat to do over.

At the unit level, **Self Checks** break down the subtopics, offering a practical way for you and your students to track progress, celebrate growth, and pinpoint areas that need reinforcement or extension.

14 Grading

The **Lesson Overview** page in *Classroom Mathematics California* gives you a powerful launch point for designing assessment tools that generate meaningful data, helping you make informed decisions and drive deeper thinking in your *Building Thinking Classrooms* environment.

About Classroom Mathematics California

Classroom Mathematics California is designed to support the implementation of the California framework along with equipping teachers with the resources they need to help students develop a strong foundation in mathematics.

Structured for In-Depth Understanding

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.

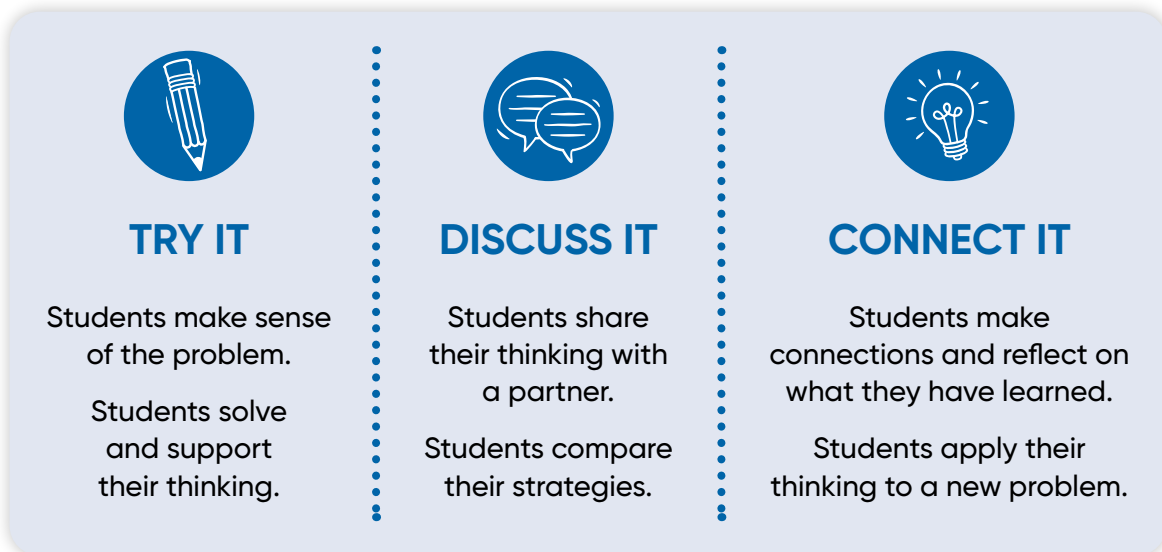
~30 lessons in the year
with dedicated time for
Big Idea connections!

Big Ideas Develop across the Multiple-Day Lesson Structure

Day 1	Day 2	Day 3	Day 4	Day 5
Explore Session	Develop Sessions <i>One to Three Develop Sessions in Each Lesson</i>			Refine Session
• 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.



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

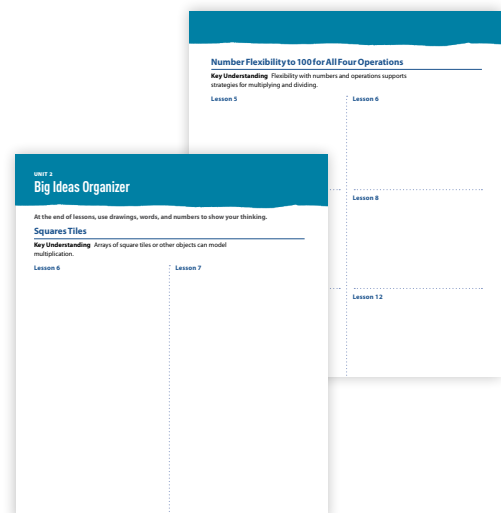
Unit 2 Big Ideas and Key Understandings:

- **Square Tiles** Arrays of square tiles or other objects can model multiplication. (Lessons 6–7)
- **Number Flexibility to 100 for All Four Operations** Flexibility with numbers and operations supports strategies for multiplying and dividing. (Lessons 4–13)

Use the **Big Ideas Organizer** pages with students.

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.





Classroom Mathematics California



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ClassroomMathematicsCalifornia.com

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