

DATA Science

Classroom Mathematics California incorporates opportunities for children to build data literacy and develop data science skills in every strategy lesson throughout the school year. Working with authentic real-world data, relevant, engaging topics, and a variety of data presentations, children strengthen their ability to work with and understand data.

Data Talks

Data Talks are Number Sense Starts that represent an easy-to-implement, engaging approach to Data Science. Once per lesson, these 5–10 minute activities provide children with opportunities to explore data, develop data literacy, and apply grade-level mathematics.

Start

Data Talk

Which desert animal would you most like to see?

Desert Horned Lizard	Fennec Fox	Roadrunner
		

What do you notice? What do you wonder?

LESSON 16 | SESSION 5 | REFINE

Data Talks reflect the variety of the data displays that children may see in school and in the world around them including familiar graphs of grade appropriate, engaging data. Children explore, make observations, interpret, and critique data displays.

LESSON 3

SESSION 5
REFINE

Purpose

- Refine understanding of counting on to add and counting back to subtract.

What do you notice? What do you wonder?

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 do we like to eat?

Fruits	Vegetables
	

What do you notice? What do you wonder?

LESSON 3 | SESSION 5 | REFINE

MOVE AND COUNT Have children count forward and backward by 10s to 100. Then have them hop in place as they count forward and backward by 1s from 31 to 45 and from 68 to 86. Have them do a jumping jack for each multiple of 10.

DIFFERENTIATION | English Learners Use with Analyze It

ELD.PI.1.3 Offering opinions, ELD.PI.1.10 Writing, ELD.PI.1.12a Selecting language resources

Emerging: Speaking/Writing	Expanding: Speaking/Writing	Bridging: Speaking/Writing
Help children use lesson vocabulary to state opinions in writing. Review <i>start</i> , <i>count on</i> , and <i>solution</i> . Have children raise a hand to show if they agree with Boom, Buzz, or both. ASK: Where did [Boom/Buzz] start? Reword responses using [Boom/Buzz] started at _____. Ask simple questions about how much Boom and Buzz counted on and their solutions. Use children's ideas to summarize each character's steps. Support and monitor while children write using <i>start</i> , <i>count on</i> , and <i>solution</i> .	Help children use lesson vocabulary to state opinions in writing. Review <i>start</i> , <i>count on</i> , and <i>solution</i> . For example, ask children to point to where Buzz started. Then have children in small groups tell whose model they agree with using: • [Boom/Buzz] started at _____ and counted on _____. • I agree with _____ because _____. After the groups share, restate the key terms and have partners write their responses.	Help children use vocabulary to state opinions in writing. Have partners discuss what Boom and Buzz did on the number path. ASK: What action words did you hear that helped you understand your partner's ideas? Make a list of key words such as <i>start at</i> , <i>count on</i> , <i>end on</i> , and <i>solution</i> . Have one partner explain their idea again while the listener gives feedback before writing independently.

73a Lesson 3 Use Counting Strategies to Add and Subtract ©Curriculum Associates, LLC Copying is not permitted.

In every unit, as part of Math in Action, children work with authentic real-world data and relevant, engaging topics, to build data literacy and develop data science skills. The Math in Action **Data Activity** offers children in-depth experience with a **Statistical Problem-Solving Process (SPSP)** that takes them from making sense of a question to collecting and analyzing data, and finally to interpreting and drawing conclusions.

Ask a Question

Collect & Consider Data

Analyze the Data

Interpret the Results

Children answer the investigative question and explain their reasoning.

UNIT 4

SESSION 2
Math in Action

MATERIALS
(per child)

My Data Analysis Workmat
(optional)

Data Activity: Analyze & Interpret | SMP 1, 3, 7

In this activity, children discuss what they notice and wonder about the class data display. They use the class data to answer questions they wonder about and explain their reasoning.

▶ STEP 3: Analyze the Data

- Have children look at the class data display and describe what they notice. For example, children may notice one category has more sticky notes than another.
- Ask children what they wonder about the class data. Have children turn and talk with a partner to share their thinking.
- Invite children to share what they wonder about the class data. Record their responses, then review them one at a time. For each response, ask: *Can you find the answer by using our class data? Why or why not?*
- When the class thinks a question can be answered by using the class data, investigate the question together. For example, they might wonder how many children voted for butterfly and count to find out.
- Alternatively, have children work in pairs to explore these questions. Then come together as a class to discuss, inviting children to share methods they use to solve.

▶ STEP 4: Interpret the Results

Discuss whether children think the data helps to answer the question presented to the class. Help children make connections between their own reasoning and that of others.

ASK *Does the data show which animal most children in our class would like to see in a pollinator garden? How do you know?*

LISTEN FOR children to explain or show how they analyze the data to answer the question. Notice methods they use, such as counting or comparing.

Help children begin to see how data can be useful in the real world.

ASK *Who might be able to use our class data? How could our data be helpful to someone?*

LISTEN FOR children to share their ideas about who might use the data and how it could help them.

As an additional activity, research plants and flowers that can be grown in the area where you live that attracts butterflies, hummingbirds, or bees.

Sentence Frames

To support children describing their answers when speaking or writing:

- *The data shows _____.*
- *[We/Someone] could use our data to _____.*

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Unit 4 Math in Action

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