

SAVVAS

Grade
K



Let's Investigate Take and Teach



enVision⁺

MATHEMATICS

Real-World Math. Real-World Ready.



Represent Addition

FOCUS

Mathematics Objective Solve a problem by combining and counting quantities of 1, 2, and/or 4 to make larger quantities using prior knowledge of counting and comparing numbers 1 to 10.

Language Objective Describe ways to combine quantities of 1, 2, and/or 4 to make larger quantities orally and with pictures.

Essential Understanding Many different strategies exist for adding numbers. Quantities can be combined to create larger quantities.

COHERENCE

Look Back Previously, students counted and compared numbers 1 to 10 and used numbers 1 to 10 to describe categories.

This Lesson Students combine quantities of 1, 2, and/or 4 to make larger quantities using counters or pictures.

Look Ahead The next 2 lessons explicitly develop the concept of addition as *adding to* and *putting together*.

Cross-Cluster Connection Representing addition with objects and drawings connects to counting to answer "how many?" questions.

RIGOR

Conceptual Understanding Students choose a combination of unicycles, bicycles, or scooters (choose two or more addends of 1, 2, and/or 4) and calculate the total number of wheels. Students recognize that there are different ways to combine quantities to make the same total.

Vocabulary

none

Materials

- Two-colored counters (or Teaching Tool 77)
- Crayons

Student Resources

 Family Engagement

Intervention System (IS)

A3 Six to Ten

Teacher Resources

 enVision on the Go



Exit Ticket Support for using the Exit Ticket is available online.

Step 1 Investigate



10-25 min

Investigate

Scout Observational Assessment

Name _____

Represent Addition

I can ... investigate strategies for adding objects.

Let's Investigate

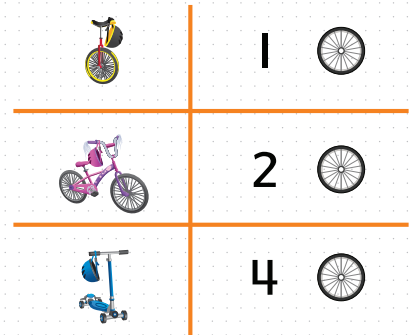
Lesson 4-1



Directions Wheel Parade Say: Jada and Roshan want to join a wheel parade that supports young people being active. They can choose a vehicle with 1 wheel, 2 wheels, or 4 wheels. They can choose the same or different vehicles. Choose what Jada and Roshan will ride in the parade. How many wheels are Jada and Roshan adding to the wheel parade? How could we find out?

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See sample student work.

Way 1

Way 2

Build G.R.I.T.
Have a growth mindset.

Directions Have students show two different choices for Jada and Roshan. **Say:** Pick a vehicle for Jada and Roshan. Under Way 1, show how many wheels they added to the parade. Use drawings, your fingers, counters, numbers, or sounds to show how you know. Write the number that tells how many wheels they added to the parade. Have students choose different vehicles for Way 2.

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MTP Anticipate

Anticipate students' solution strategies. Think of various ways students might use their prior knowledge to solve the problems. See the next page for sample student work.

Introduce the Investigation

Use the Slow Reveal Slides Reveal part of the information. Then ask: What do you notice? What do you wonder?

Elevate Student Voices: Engage Students in the Context Have students bring their own unique experiences and ideas to the situation by using prompts like these:

- Which of these vehicles have you seen before? Can you guess which one is the unicycle?
- What do you like to do to stay active?
- What are some things you have seen in a parade?

Check for Understanding

MLR6 Three Reads

Read the task to the class.

- What is the task about?
- What will Jada and Roshan do?

Read the task to the class again.

- What information is given in the task?
- How many wheels does each vehicle have?

Read the task to the class a third time.

- What is the task asking you to do?
- How will you know how many wheels were added to the parade?

Step 1 Investigate *continued*

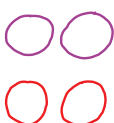
Sample Student Work

Wheel Parade

Show two different choices for Jada and Roshan. Choose a combination of unicycles, bicycles, or scooters. Under Way 1, show how many wheels they added to the parade. Use drawings, your fingers, counters, numbers, or sounds to show how you know (combining two or more quantities of 1, 2, and/or 4 to make larger quantities). Write the number that tells how many wheels they added to the parade. Choose different vehicles for Way 2.

- **Shanice drew circles to show 1 scooter and 1 unicycle for Way 1, and 2 bicycles for Way 2.** Then she added $4 + 1$ to find a total of 5 wheels for Way 1 and $2 + 2$ to find a total of 4 wheels for Way 2.

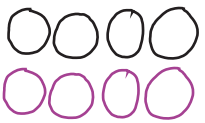
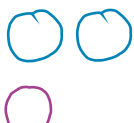
Shanice's Work

Way 1	Way 2
	
5	4

You might ask Shanice: [Can you tell me what you did?](#) [Listen for "I drew 4 circles because a scooter has 4 wheels and 1 circle because a unicycle has 1 wheel. I started at 4 and counted on 1 more to 5."]

- **Hana drew circles to show 2 scooters for Way 1, and 1 bicycle and 1 unicycle and for Way 2.** Then she added $4 + 4$ to find a total of 8 wheels for Way 1 and $2 + 1$ to find a total of 3 wheels for Way 2.

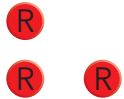
Hana's Work

Way 1	Way 2
	
8	3

You might ask Hana: [What do these pictures mean?](#) [Listen for "Each circle shows one wheel for each vehicle."]

- **Carmelo used counters to show 2 unicycles for Way 1 and 1 unicycle and 1 bicycle for Way 2.** Then he added $1 + 1$ to find a total of 2 wheels for Way 1 and $2 + 1$ to find a total of 3 wheels for Way 2.

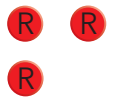
Carmelo's Work

Way 1	Way 2
	
2	3

You might ask Carmelo: [How did you count the wheels?](#) [Listen for "I pointed to each counter and counted." Or "1, 2, 3."]

- **Taya used counters to show 1 bicycle and 1 scooter for Way 1 and 1 bicycle and 1 unicycle for Way 2.** She added $2 + 3$ to find a total of 5 wheels for Way 1 and $2 + 1$ to find a total of 3 wheels for Way 2. She didn't notice that she used 3 counters to represent the wheels of the scooter.

Taya's Work

Way 1	Way 2
	
5	3

You might ask Taya: [How many wheels does the scooter have?](#) [Listen for "4 wheels. Oh, I only used three counters. I need to add 1 more counter."]

Step 1 Investigate *continued*

MTP Monitor

Monitor Students at Work Ask questions to assess and advance students' thinking.

Assessing Questions

Questions for Students to Understand Their Thinking

- Can you tell/show me what you did?
- What do these counters/pictures/numbers mean?

Questions for You as You Observe 

- How are students representing the wheels?
- What prior knowledge are they using to help them find the total number of wheels?

Advancing Questions

Questions to Ask Students Who Need Help

- If students cannot get started, ask: *How many wheels would there be if there was 1 bicycle and 1 unicycle? How do you know?*
- If students' work is incorrect, ask: *How did you get that answer? Listen for misunderstandings and careless errors.*

Questions to Ask Students to Think More Deeply

- Is there another way to solve the problem?
- Can you write an equation that shows the number of wheels in each vehicle and the total number of wheels to show your answer?

Early Finishers

Ask: *Can you show a third combination of 2 vehicles that Jada and Roshan could add to the parade?* [Answers will vary. Students should select vehicles not previously used.]

MTP Select and Sequence

Select and Sequence Students' Solutions for them to present with the goal of building understanding of key concepts.

Start with solutions that show a common error of not correctly representing the number of wheels each vehicle has. (Taya)

Then show solutions that show a smaller number of total wheels. (Carmelo)

Finally, show solutions that show a greater number of total wheels. (Shanice, Hana)

Step 2 Connect



10-15 min

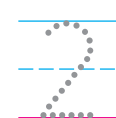
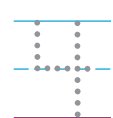
MTP Connect

Name _____

Connect

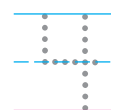
Student responses to discussion items will vary.

1



6 in all

2



8 in all

3



4 in all

Directions   Tell students each problem shows Jada and Roshan's wheels for the parade. **Say:** *How is each way different? How are they alike? Could we use other ways? Have students write how many wheels for each and how many in all.* **Say:** *How can we find how many in all in different ways?*

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Connect Solution Strategies Discuss students' work. Ask how the solutions are similar and different. Help students see that Shanice chose 1 scooter and 1 bicycle for Way 1 and Carmelo chose 2 unicycles for Way 1. But they both combined smaller quantities of wheels to create larger quantities of wheels.

Connect to Key Concepts Use the Connect questions to build understanding of key concepts in the lesson. Use the Reflection on the next page to further this understanding.

MTP TALK ABOUT MATH IDEAS

Have students engage in a think-pair-share to discuss the ways smaller quantities can be combined to make larger quantities. Listen for students who explain how the wheels on each vehicle are counted to find the total number. Some students may count each circle while others may count on by 1s to find the total.

Step 3 Practice and Problem Solving



10-15 min

Interactive Practice

Adaptive Practice

Practice and Problem Solving

✓ 4

2 1 3 in all

✓ 5

4 1 5 in all

✓ 6

Student drawings show 4 wheels each.

4 4 8 in all

Directions Have students write how many wheels for each vehicle and then how many wheels in all.

Say: What is the greatest number of wheels that Jada and Roshan can add to the wheel parade? Use drawings and numbers to show how you know.

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MLL Multilingual Learners SPEAKING

Have students reflect on the vehicles they chose for Jada and Roshan to bring to the Wheel Parade.

Emerging Ask students to draw the number of wheels on each vehicle 2 ways and count the wheels aloud.

Expanding Have students compare and contrast how each of the 2 ways are similar and different.

Bridging Have students reflect on personal preferences to explain why they chose each vehicle for each of the 2 ways.

Reflection

Reflect on key concepts in the lesson with students. Have students look at the picture at the top of the page. Describe the 2 vehicles in the picture. [Bicycle: 2 wheels; Unicycle: 1 wheel] How can you know how many wheels are shown in all? [Point to each wheel and count: 1, 2, 3.] What does the number 3 show? [The total number of wheels in the picture.]

Error Intervention Item 4

If students do not count the wheels correctly, then remind them to touch each wheel as they count aloud.

Item 5 Generalize Encourage students to make connections between the pictures, motions, and written numerals.

Item 6 Make Sense and Persevere You may wish to guide students in understanding the problem. Which vehicle has the most wheels? [scooter.] How many wheels are there total on 2 scooters? [8] How do you know that the greatest number of wheels that Jada and Roshan can add to the wheel parade? [They are each adding the vehicle with the biggest number of wheels.]

MTP Quick Check

Formative Assessment

✓ Check marks indicate items for prescribing differentiation. Items 4 and 5: up to 2 points. Item 6: up to 3 points. The online Quick Check is auto-scored and auto-prescribes differentiation.

Step 4 Assess and Differentiate

10-15 min

Additional Practice

Name _____

Represent Addition

HOME ACTIVITY Give your child 10 pennies and then say a number between 2 and 10. Ask your child to make that number with two groups and then clap and knock to show you the two parts. For example, if you say 8, your child can make a group of 5 pennies and a group of 3 pennies. He or she will clap 5 times and knock 3 times.

Another Look!

Wheels

	1
	2
	3

in all

★

in all

Directions Say: Jada and Roshan choose two tricycles to ride in the wheel parade. Trace the number of wheels and write how many wheels in all. ★ Draw the number of wheels and write how many wheels in all.

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2

in all

3

in all

4

Answers vary. Check students work.

in all

Directions Say: 2 and 3 Draw the number of wheels and write how many in all. 4 Higher Order Thinking Draw a parade of cycles with 3 wheels in all. Use more than 1 cycle.

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Differentiation Library

The **Differentiation Library** at the beginning of this topic shows the differentiation options available, each of which can be appropriate for all students. However, based on the **Quick Check** results, you may prescribe:

0-3 points: Intervention Activity or Reteach to Build Understanding Activity

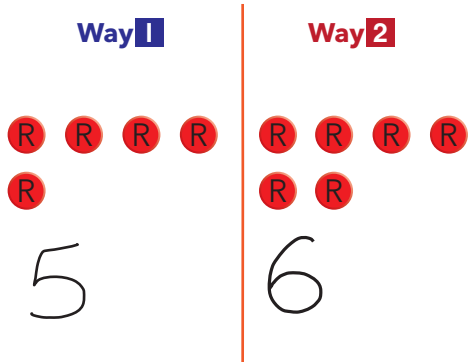
4-5 points: Enrichment Activity

In addition, **multilingual learners** may benefit from the Build Mathematical Literacy Activity.

Intervention Activity

Materials Two-colored counters (or Teaching Tool 77); crayons

- Model selecting 1 scooter and 1 unicycle and placing 5 counters under Way 1. Model selecting 1 scooter and 1 bicycle and placing 6 counters under Way 2. Model touching each counter as you count aloud and writing the total number below the counters.
- Guide students to repeat the process step by step with a different combination of vehicles for Way 1. Check that students represent the number of wheels correctly with the counters and accurately count the counters.



- Guide students to choose a different combination of vehicles for Way 2 and repeat the process.

Video Tutorial

Another Look Video

Intentional Blank Page

Name _____

Represent Addition

Let's Investigate

Lesson 4-1

I can ... investigate strategies for adding objects.



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	1	
	2	
	4	

Use the data.



Way 1

Way 2

Build G.R.I.T.
Have a growth
mindset.

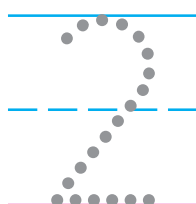
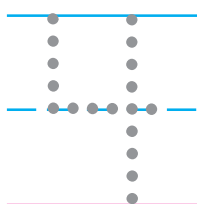
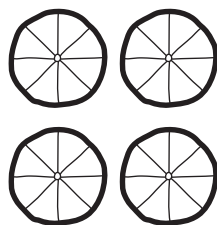


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Name _____

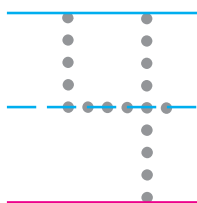
Connect

1



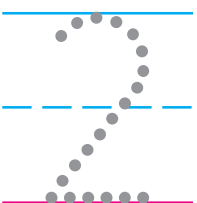
_____ in all

2



_____ in all

3



_____ in all

Directions ★—🔍 Tell students each problem shows Jada and Roshan's wheels for the parade. **Say:** *How is each way different? How are they alike? Could we use other ways? Have students write how many wheels for each and how many in all.* **Say:** *How can we find how many in all in different ways?*



Practice and Problem Solving

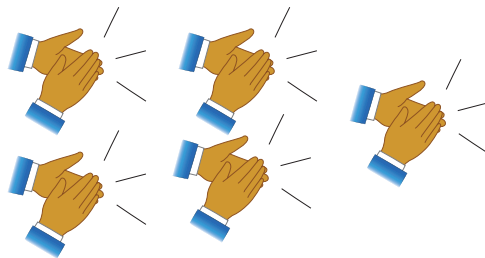
4



_____	_____
_____	_____
_____	_____

_____ in all

5



_____	_____
_____	_____
_____	_____

_____ in all

6

_____ in all

Directions 4—5 Have students write how many wheels for each vehicle and then how many wheels in all.
6 Say: What is the greatest number of wheels that Jada and Roshan can add to the wheel parade? Use drawings and numbers to show how you know.