

Let's Investigate
Lesson
2-1

Use and Choose Addition Strategies

KEY CONCEPTS

- Mathematics Objective** Solve addition problems by using prior knowledge of models and strategies.
- Language Objective** Explain, orally and in writing, a chosen strategy to solve an addition problem.
- Essential Understanding** Addition problems can be represented and solved in different ways using objects, drawings, and equations.

COHERENCE

- Look Back** Previously, students solved addition facts within 10 by using objects or drawings to represent the problems. They also developed fluency in adding within 5.
- This Lesson** Students build on their understanding of addition by choosing and using appropriate strategies to add numbers.
- Look Ahead** Later, students will explicitly develop students' skill in addition within 10 by exploring the models and strategies in more depth and applying them to different kinds of problems.

BALANCE

- Conceptual Understanding** Students continue to develop their skill in solving addition problems by using strategies that involve working with objects and pictures. They relate those representations to the numbers and symbols they can use to write equations and find sums.

Reinforce Vocabulary

equation

Materials

none

Student Resources

- Family Engagement

Teacher Resources

Available at
Savvas Realize®

- Editable Lesson Plan
- Lesson Presentation Slides
- Slow Reveal Slides
- Sample Student Work
- Exit Ticket and Teacher Support
- enVision on the Go: Planning Support



Texas Essential Knowledge and Skills (TEKS)

- Number and operations. The student applies mathematical process standards to develop and use strategies for whole number addition and subtraction computations in order to solve problems. The student is expected to:
- 1.3E** explain strategies used to solve addition and subtraction problems up to 20 using spoken words, objects, pictorial models, and number sentences.
 - 1.3D** apply basic fact strategies to add and subtract within 20, including making 10 and decomposing a number leading to a 10.

Mathematical Process Standards

- The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
- 1.1E** create and use representations to organize, record, and communicate mathematical ideas.
 - 1.1F** analyze mathematical relationships to connect and communicate mathematical ideas.
 - 1.1G** display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.

- Targeted ELPS Support Writing 4C
- College and Career Readiness Standards I.A.2, VII.A.2

Step 1 Investigate

15-25 min

Investigate

Scout Observational Assessment

Name _____

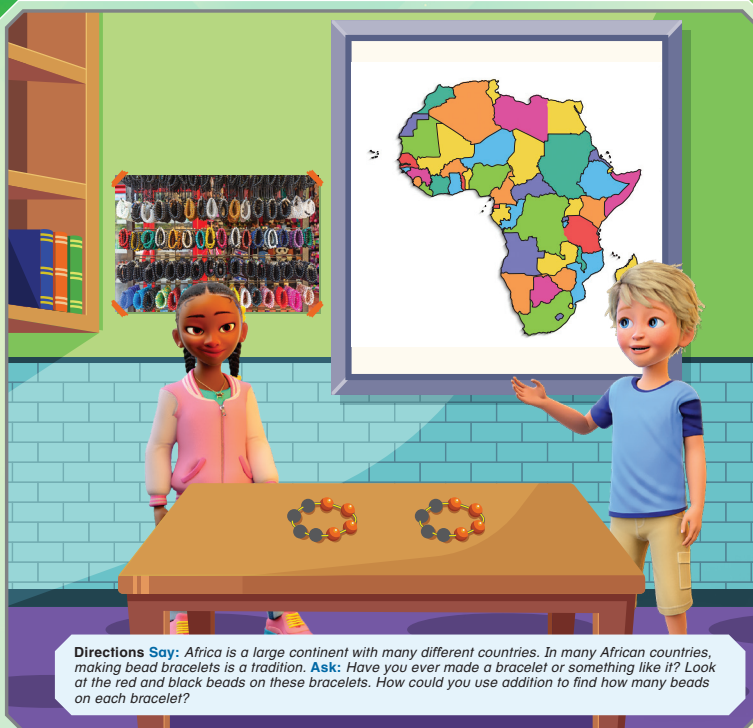
Use and Choose Addition Strategies

Let's Investigate

Lesson 2-1

I can ... investigate different ways to solve addition problems.

TEKS 1.3E The student is expected to explain strategies used to solve addition and subtraction problems up to 20 using spoken words, objects, pictorial models, and number sentences. Also **1.3D** Mathematical Process Standards 1.1E, 1.1F, 1.1G

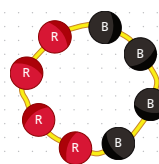


Directions Say: Africa is a large continent with many different countries. In many African countries, making bead bracelets is a tradition. **Ask:** Have you ever made a bracelet or something like it? Look at the red and black beads on these bracelets. How could you use addition to find how many beads on each bracelet?

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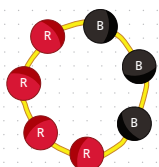
A.



Student strategies will vary.

$$4 + 4 = 8$$

8 beads

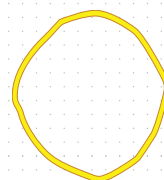


Student strategies will vary.

$$4 + 3 = 7$$

7 beads

B.



Student strategies, equations, and number of beads will vary.

Build G.R.I.T.
Grow confidence.

$$+ =$$

beads

Directions A. Tell students to use any strategy to add the two different colors of beads on the bracelets. Ask them to complete the equations to show how many beads in all and to explain their strategy. **B.** Have students draw beads to make their own bracelet. Tell them they can use any two colors, but not more than 10 beads. Tell them to use any strategy to add and complete the addition equation to tell how many beads in all. Ask them to explain their strategy.

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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

You might use the slides to reveal part of the information. Then ask: **What do you notice? What do you wonder?**

Elevate Student Voice: Engage Students in the Context

Have students bring their own unique experiences and ideas to the situation by using prompts like these:

- What do you think of when you hear "Africa?"
- If you could make a bead bracelet for someone special, who would it be for? What colors of beads would you use?
- Imagine you are using two colors of beads to make a bracelet. How can you use math to help you find the total number of beads?

Check for Understanding

Language Routine: Three Reads

Have students read the task by themselves. Ask:

- What is the task about?
- How can you describe the task without using numbers?

Have students read the task a second time. Ask:

- What math quantities and relationships are in the task?
- What information is given? What do you need to find?

Have students read the task a third time. Say:

- Think to yourself about how you might solve the problem.

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Step 1 Investigate *continued*

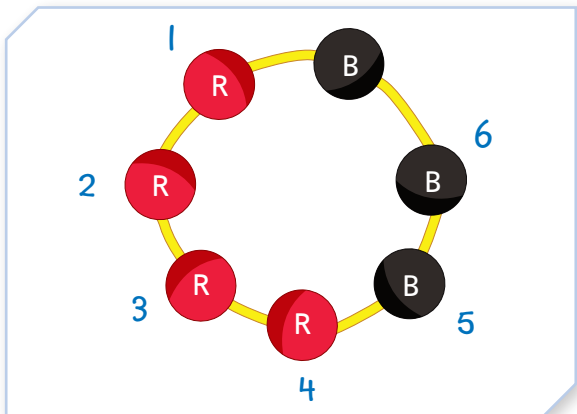
Sample Student Work Available at Savvas Realize®

Problem A

Each bracelet has two colors of beads that can be joined to find how many beads are in the whole bracelet (unknown result). Show how to use addition to add the two different color beads on the bracelets. Complete the equations to show how many beads in all.

- **Daniel counted all the beads to find the total, but he miscounted.** He did not count one of the black beads in each bracelet.

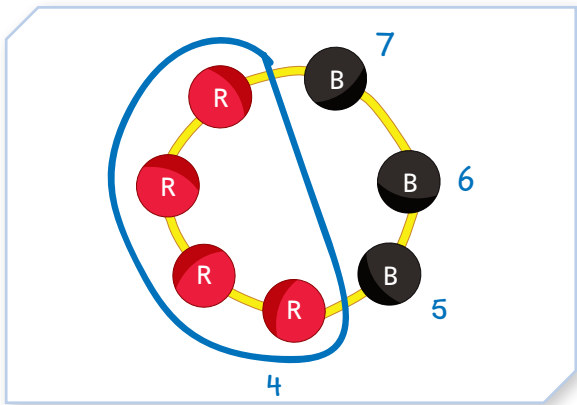
Daniel's Work



You might ask Daniel: Try touching each bead as you count. How many red beads and black beads are there in the first bracelet? In the second bracelet? [Listen for: "4 red beads and 4 black beads in the first bracelet, and 4 red beads and 3 black beads in the second bracelet."]

- **Margaret used her prior knowledge of counting forward from a given number to find the total number of beads in each bracelet.** She started by finding the number of red beads. Then she counted forward using the number of black beads.

Margaret's Work



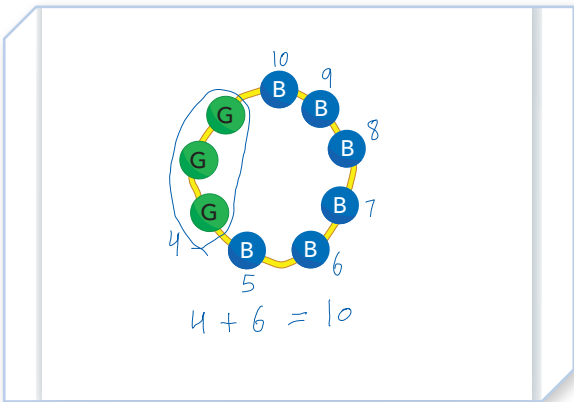
You might ask Margaret: Can you think of a way to use your first equation, $4 + 4 = 8$, to find the sum in your second equation, $4 + 3 = \underline{\quad}$? [Listen for: "Since 3 is 1 less than 4, I can say that $4 + 3$ is 1 less than 8, or 7."]

Problem B

Draw beads to make your own bracelet. Use any two colors but not more than 10 beads. Show how you will add the two colors and complete the addition equation to tell how many beads are in the bracelet.

- **Ana used her prior knowledge of counting forward from a given number to find the total, but she miscounted.** She counted 4 green beads, instead of 3.

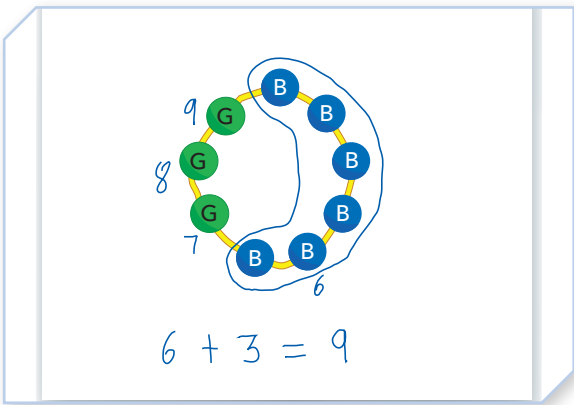
Ana's Work



You might ask Ana: Which group of beads did you start counting forward from? How many beads are in that group? [Listen for: "I started counting from the group of green beads. Oh, there are 3 beads, not 4. I should have started counting from 3."]

- **Joel started with the larger number of beads, and then counted forward using the smaller number of beads to find the total.** He started with 6, and then counted forward 3 numbers like so: 7, 8, 9.

Joel's Work



You might ask Joel: Why did you start counting forward from the group of blue beads? [Listen for: "If I start from the larger number of beads, there are fewer numbers to count to find the total. Since there are more blue beads, I started with that group."]

Step 1 Investigate *continued*

Step 2 Connect



10-15 min

Monitor SMALL GROUP

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?
- How does each picture of a bracelet relate to the numbers that you use in each equation?

Questions for You as You Observe

- What addition strategies do the students already know?
- How do students choose the strategy to use when writing and solving each equation? Do they use a different strategy or the same strategy for each problem?

Advancing Questions

Questions to Ask Students Who Need Help

- If students cannot get started, ask: *In each bracelet, how many beads of each color do you see? How many beads are there in all?*
- If students' work is incorrect, ask: *How did you get that answer?* Listen for understandings and build on what they know.

Questions to Help Students Think More Deeply

- Why is it important to learn different strategies for solving addition facts?
- Can you give one more example of how to use an addition fact that you know to solve another addition fact?

Early Finishers

Ask: I want to make a bracelet using a total of 10 beads of two different colors. What equation could possibly model this situation? How would you use a strategy to check that the sum in your equation is correct? [Sample answer: $7 + 3 = 10$. I start from 7, and then count forward 3 numbers like so: 7, then 8, 9, 10. The sum is 10.]

Select and Sequence SMALL GROUP

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 miscounting objects or pictures that students use to represent addition problems. (Daniel, Ana)

Then show solutions that show how students can use their prior knowledge of counting forward from any given number to help them solve different addition problems. (Margaret)

Finally, show solutions that show how to choose and use more efficient addition strategies like counting forward from the larger addend in an addition problem, instead of starting from the smaller addend. (Joel)

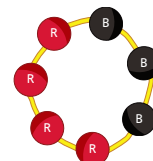
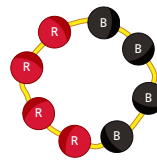
Connect INDIVIDUAL WHOLE CLASS

Name _____

Connect

How is this bracelet different?

1. **Analyze** Find how many in all.

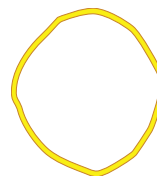


Student responses will vary.

$$4 + 4 = 8 \quad 4 + 3 = 7$$

8 beads 7 beads

2. **Represent** Show your own bracelet.
Add the the beads.



Student responses will vary.

$$\underline{\hspace{1cm}} + \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$

_____ beads

Directions 1. Show how to add to find how many beads in all for each bracelet. Tell a classmate how finding how many in all in the first bracelet can help with the second one. 2. **Say:** Draw your own bracelet again. This time, show a different way to use addition to show how many beads there are in all. **Talk About Math Ideas Say:** Why might it be helpful to know different ways to add?

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Connect Solution Strategies Discuss students' work. Ask how the solutions are similar and different. Help students see that both Margaret and Joel used their prior knowledge of counting forward from any given number to find the total number of beads. Margaret started with the smaller addend, and then counted forward using the larger addend. Joel started with the larger addend, and then counted forward using the smaller addend. Joel's strategy is more efficient because he counted fewer numbers to find the sum.

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.

Talk About Math Ideas

Have students engage in a think-pair-share to discuss different ways to solve addition problems. Listen for students who prefer to represent addition problems with objects, pictures, or equations, and then use their understanding of efficient ways of counting groups of objects to find sums. Other students might prefer to use their knowledge of some addition facts to solve other addition facts.

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Step 3 Practice and Problem Solving

10-15 min

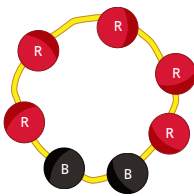
Interactive Practice

Adaptive Practice

Practice and Problem Solving



3. Explain Add.

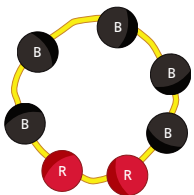


Student strategies will vary.

$5 + 2 = 7$

7 beads

4.

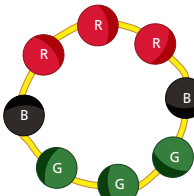


Student strategies will vary.

$2 + 5 = 7$

7 beads

5.



Student strategies will vary.

Sample equation: $3 + 2 + 3 = 8$

8 beads

Directions Remind students that the key concept in this lesson is that you can add in different ways. Have students write an equation and solve each problem. **Say:** 3. Show how you could add to find the number of beads in all. 4. Think about what you did to add in Item 3 to solve Item 4. 5. How could you add using three different colors of beads? Show your thinking.

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Targeted ELPS Support WRITING 4C

Pre-Production Show 7 red counters and 2 yellow counters. Say aloud each number of counters and have students point to and say aloud each number.

Beginning Have students draw 7 red counters and 2 yellow counters. Have them write the number of counters below each group of counters. Have students record how they can count the counters to find the number of counters in all.

Intermediate Have students draw 7 red counters and 2 yellow counters. Have them write the number of counters of each color, and the sum, in an addition equation.

High Intermediate Have students draw 7 red counters and 2 yellow counters. Have them write the number of counters of each color, and the sum, in an addition equation. Have them label each number and symbol in the equation. Provide the following word bank: *addend, plus sign, equal sign, sum.*

Advanced Have students in pairs take turns modeling addition problems using drawings. Have them record the strategy they use to solve, and write an addition equation.

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Reflection

Reflect on key concepts in the lesson with students. Have students recall and explain different strategies they already know and use to add numbers. **How do you use objects or pictures to represent an addition problem?** [Sample answer: I use or draw different color counters to show the numbers I need to add. Then I put the counters together to show the total.] **How do you use your understanding of counting forward from any given number to add?** [I start with one of the addends. Then I count forward using the other addend. The last number I count is the sum.] **What other addition strategies do you use often?** [Sample answer: I use the addition facts that I already know to solve other addition facts.]

Error Intervention Item 5

If students are having difficulty determining what addition strategy to use when working with three addends, **then** guide them in understanding that they have to add any two numbers first using any known strategy, and then add the sum of those two numbers to the third number using either the same strategy or a possibly more efficient strategy.

Items 3 and 4 Have students relate and compare the two equations that they wrote, and then explain why numbers can be added in any order.

Item Analysis: Connect; Practice and Problem Solving

Item	DOK	TEKS	
		Content	Process
1	2	1.3D, 1.3E	1.1F
2	2	1.3D, 1.3E	1.1E
3	2	1.3D, 1.3E	1.1G
4	2	1.3D, 1.3E	
5	2	1.3D, 1.3E	

Quick Check

Formative Assessment

✓ Assess lesson content with the Quick Check. Check marks in Practice and Problem Solving indicate items for prescribing differentiation. Items 3 and 4: 1 point each. Item 5: up to 3 points. See the Item Analysis on the previous page. The online Quick Check is **automatically scored** and **remediation, practice, or enrichment** will be assigned based on student performance.

0-3 points: Intervention Activity (below) and Reteach to Build Understanding Activity

4-5 points: Enrichment Activity

In addition, **emergent bilingual students** may benefit from the Build Mathematical Literacy Activity.

Differentiation Library

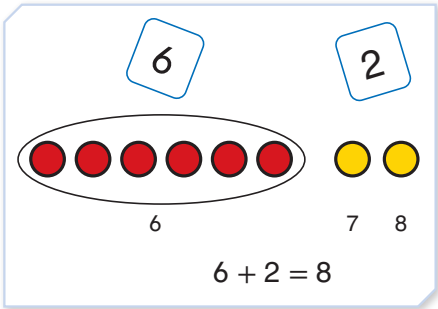
DL

- Additional Differentiation Library resources are described at the start of this topic.
- Differentiation resources that support diverse learning styles are online and in the Differentiation Library Teacher’s Guide.

Intervention Activity

Materials Number cards (Teaching Tool 84), two-color counters (or Teaching Tool 77)

- Have students work in pairs. Provide each pair with two number cards that show numbers with a sum within 10.
- Ask students to find the sum of the numbers individually using any strategy they know. Tell them they can use counters or draw pictures if they need to.



- Have each student explain or show to their partner how they found the sum of the two numbers.
- In case both students used the same strategy to find the sum, have them work together to think of another strategy.

Video Tutorial

Available at Savvas Realize®

Students can access this video anytime to reinforce lesson content.

Another Look Video

Additional Practice

Printable or autoscored at Savvas Realize®.

Name _____

Use and Choose Addition Strategies

Additional Practice

2-1

HOME ACTIVITY Provide your child with simple addition problems such as 2 + 2, 2 + 3, 4 + 1, and 1 + 4. Provide small objects to help add. Encourage your child to explain any strategies used and solutions to the problems.

Another Look!

Count on from 3.

That's one way.

3, 4, 5, 6

3 + 3 = 6

1. 3 + 4 = 7

Student strategies will vary.

2. 4 + 3 = 7

Directions Read and review the Another Look! example with students. Tell students that there are different ways to solve addition problems. Have them trace over the answer. 1-2, Say: Show how to solve each problem any way you choose.

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Topic 2 | Lesson 2-1 21

3. Represent

Jon has 5 large beads.

Jenn has 1 small bead.

How many in all?

Student strategies will vary.

6 beads

4. Higher Order Thinking

Choose one to solve.

X the other one out.

Show your work.

Student choices and strategies will vary.

1 + 5 = 6

5 + 2 = 7

5. Assessment Practice

6 big stones.

3 small stones.

How many in all?

A 7 stones

B 8 stones

C 9 stones

D 10 stones

Directions 3. Say: Jon has 5 large beads. Jenn has 1 small bead. How many beads do they have in all? Solve any way you choose. Show your work. 4. Say: Think about how you solved Question 3. Choose one of these equations to solve. X out the other one. Show your work. 5. Say: There are 6 big stones and 3 small stones by a pond. Which answer shows how many stones there are in all?

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Item Analysis: Additional Practice

Item	DOK	TEKS	
		Content	Process
1-2	2	1.3D, 1.3E	
3	2	1.3D, 1.3E	1.1E
4	2	1.3D, 1.3E	
5	1	1.3D, 1.3E	

Count On to Add to 10

KEY CONCEPTS

Mathematics Objective Add by counting on from a number.

Language Objective Describe how to count on from a starting number to add, orally counting, and orally describing representations.

Essential Understanding You can count on to find the sum for addition facts. A number line can help you count on.

COHERENCE

Look Back Previously, students counted objects, represented numbers of objects with concrete and visual models, and counted on from a given number.

This Lesson Students count on to add for addition facts to 10.

Look Ahead Later, students will continue their work with counting on when they count on to solve addition facts through 20 and when they count on the distance between two numbers in order to solve subtraction problems.

BALANCE

Conceptual Understanding Students deepen their understanding of the relationship between counting and addition.

Procedural Skill As students use the strategy of counting on to solve addition problems, they begin to develop procedural fluency for addition facts within 10.

New Vocabulary

number line

Materials

Number cards 1-3 (or Teaching Tool 84)

Student Resources

 Family Engagement

Intervention System (IS)

B19 Adding with 0, 1, 2

Teacher Resources

Available at
Savvas Realize®

 Editable Lesson Plan

 Lesson Presentation Slides

 enVision on the Go: Planning Support

 Texas Essential Knowledge and Skills (TEKS)

Number and operations. The student applies mathematical process standards to develop and use strategies for whole number addition and subtraction computations in order to solve problems. The student is expected to:

1.3D apply basic fact strategies to add and subtract within 20, including making 10 and decomposing a number leading to a 10.

1.3B use objects and pictorial models to solve word problems involving joining, separating, and comparing sets within 20 and unknowns as any one of the terms in the problem such as $2 + 4 = []$; $3 + [] = 7$; and $5 = [] - 3$.

1.3E explain strategies used to solve addition and subtraction problems up to 20 using spoken words, objects, pictorial models, and number sentences.

63A Lesson 2-2

Mathematical Process Standards

The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:

1.1E create and use representations to organize, record, and communicate mathematical ideas.

1.1F analyze mathematical relationships to connect and communicate mathematical ideas.

Language Support

Gestures Use this activity with Practice and Problem Solving Items 4-11. Have students demonstrate their understanding of using a number line to find the sum in an equation. Guide students to point to one of the addends on a number line (Teaching Tool 60) and say that number aloud. Then have students use their index fingers to form arcs as they count on the other addend in the equation.

Ask questions such as the following:

Which number will you start at when counting on? [Sample answer: the larger number]

How can you show counting on using the number line? [Sample answer: I count on by using the other addend to show jumps on the number line.]

Lastly, have students read the equation aloud and identify the sum.

- An additional activity is available online.
- Use the Oral Language Activity with the Guided Practice items.

Math Talk Available at Savvas Realize®

Let's Count

How many?

7

4 +  = ?

TEKS 1.3D Use anytime.

Problem Solving Have students work in pairs to share the method they used to determine “how many.” Ask: How did you count on? How many?

Exit Ticket

Formative Assessment

Name _____

Lesson 2-2 Exit Ticket

★ 0 1 2 3 4 5 6 7 8 9 10

6 + 1 = _____

☒ A 7

☐ B 8

☐ C 9

2 0 1 2 3 4 5 6 7 8 9 10

7 + 3 = _____

☐ A 8

☐ B 9

☒ C 10

Math Goal    

Directions Have students mark the best answer. ★ Use the number line to help. Find the sum.  I can add by counting on from a number.

Teacher Answer Key Assessment 1 of 1 Copyright © Savvas Learning Company LLC. All Rights Reserved.

TEKS 1.3D, DOK 1, Math Process 1.1E

You can use the Assessment Sourcebook version or the auto-scored version at Savvas Realize®.

Use the Exit Ticket results to support students as needed by reminding them that when adding two numbers, they can start from the greater number, and then count on by the smaller number.

English Language Proficiency Standards (ELPS)

WRITING 4C Write using high-frequency words and content-area vocabulary.

College and Career Readiness Standards (CCRS)*

I.A.2 Perform computations with rational and irrational numbers.

VIII.C.2 Create and use representations to organize, record, and communicate mathematical ideas.

*Problem Solving and Reasoning, **VIII** Communication and Representation, and **IX** Connections are infused throughout the program.

Step 1 Explore and Share | ENGAGE & EXPLORE



10-15 min



Explore and Share



Scout Observational Assessment

Name _____

Count On to Add to 10

Let's Build

I can ... add by counting on from a number.

TEKS 1.3D The student is expected to apply basic fact strategies to add and subtract within 20, including making 10 and decomposing a number leading to a 10. Also 1.3B, 1.3E
Mathematical Process Standards 1.1E, 1.1F

Lesson
2-2

Explore and Share

1 2 3 4 5 6 7 8 9 10

See margin for sample student work.



Predict.
Where next?

7 + _____ = _____



landed on

Directions Have students listen to and complete a story as directed. **Say:** *Rabbit likes to hop on the number path. Predict and write where Rabbit will land next. Then take a hopping card. [Students select a number card with 1, 2, or 3.] Show where Rabbit hopped to on the path. Complete the equation. Write where Rabbit landed. Did Rabbit land where you predicted?*

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Explore and Share



Formative
Assessment

Purpose Investigate how to represent and solve an addition fact by counting on from a given number on a number path.

Materials Number cards 1-3 (or Teaching Tool 84)

Introduce WHOLE CLASS

Ask: Why might a rabbit do a big hop sometimes and a small hop at other times?

Monitor, Select, and Sequence SMALL GROUP

Observe students at work.

- **How do students determine the number where Rabbit lands?** They might use their understanding of counting forward from any number by ones.
- **How do students use the number path to represent an addition equation?** They might recognize that Rabbit's starting position (7) is the first addend, the number of hops (either 1, 2, or 3) is the second addend, and the number where Rabbit lands is the sum.

Look for solutions that either skip numbers or use the starting number, 7, as the first count when counting on. If students use 7 as their first count, ask: **When Rabbit makes 1 hop forward on the number path, does Rabbit land on 7? When Rabbit makes either 2 or 3 hops forward, does Rabbit land on 7 again before hopping to the next number?**

Select solutions for students to present. Show solutions that use 7 as the first count (Andrew) before solutions that correctly count on from 7 (Stacy).

Early Finishers

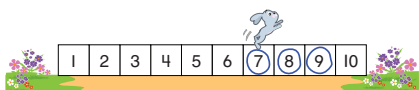
Ask: Rabbit starts at 6, hops forward a number of times, and lands on 9. What addition fact can this situation represent? [$6 + 3 = 9$]

Connect WHOLE CLASS

Connect Solution Strategies Discuss students' work. Both Andrew and Stacy thought of counting on from 7 to find the number where Rabbit lands. Connect and compare their work by drawing the hops from 7 to 9 in Andrew's solution. Help students recognize that Andrew counted only 2 hops forward from 7, while Stacy correctly counted on 3 hops.

Connect to the Visual Learning During the Visual Learning, connect to student work in Explore and Share. Be sure students understand that they can count on when adding 1, 2, or 3 to a given number.

Sample Student Work



$$7 + 3 = 9$$

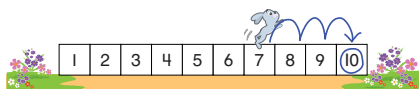
9



landed on 9

Andrew's Work

Andrew tried to count on, but he incorrectly used 7 as the first count. He counted 3 hops from 7 as follows: 7, 8, 9. Then he used the last number in his count, 9, as the sum.



$$7 + 3 = 10$$

10



landed on 10

Stacy's Work

Stacy drew 3 hops from 7. She counted on from 7 as follows: 8, 9, 10. Then she used the last number in her count, 10, as the sum.

Step 2 Visual Learning | EXPLAIN



5-10 min

Visual Learning Animation

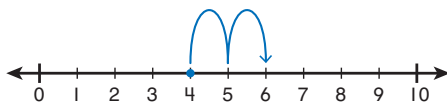
Visual Learning

A 4 tomatoes are in a pot.
Add 2 more.



How many tomatoes are there now?

B You can use a **number line**.
Count on to find the sum.



Start at 4.
Count on 2 more.

4 and 2 more is 6 tomatoes.

C Write an equation to show the addition and find how many.

4 + 2 = 6

There are 6 tomatoes in the pot.



Talk About Math Ideas

Directions Say: How do you add 1 or 2 to any number?

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Targeted ELPS Support WRITING 4C

Display a number line from 0 to 10 without any jumps. Provide students with the same number line on paper. Point to the number line. Have students say the term, *number line*. Have students practice writing the vocabulary term, *number line*.

Pre-Production Say aloud each number in order on the number line and have students point to and say aloud each number.

Beginning Have students copy the numbers in order 0, 1, 2, 3, ... below each number on the number line.

Intermediate Have students draw on the number line to show: starting at 4 and counting on 2 more.

High Intermediate Have students draw on the number line to show $4 + 2$. Have them copy the addition and write the sum.

Advanced Have students draw on the number line to solve the word problem: *4 tomatoes are in a pot. Add 2 more. How many tomatoes are there now?* Have students write the addition fact.

Visual Learning

Essential Question Ask: How can you count on to add 1, 2, or 3 to a number?

Classroom Conversation

A How many tomatoes are in the pot? [4] How many more tomatoes are being added? [2]

B Represent How can you use the number line to find 2 more than 4? [Sample answer: I start at 4. Then I count on 2 more by showing a jump from 4 to 5 and another jump from 5 to 6.] So, how many tomatoes are there in all? [6] Do you get the same answer no matter which way you solve the problem? Explain. [Yes; Sample answer: The answer is the same because I am either adding a group of 2 to a group of 4, or counting on 2 more from 4 on the number line. Both ways give the answer of 6.]

C Analyze How can you find how many tomatoes there are now? [Sample answer: I can add the two groups together.] What is 2 more than 4? [6] So, what is $4 + 2$? [6] How many tomatoes are there in all? [6] How did you use counting on as a shortcut for finding the sum? [Sample answer: Counting on 2 from the 4 tomatoes is faster than counting all the tomatoes to find the total.]

Prevent Misconceptions Watch for students who do not know that the order of the addends does not matter when writing an addition equation. For example, in Box C, some students may think that they cannot switch the two addends, 4 and 2, in the required equation.

Language Routine: Compare and Connect

Ask: How is counting on a given number of objects similar to counting all objects in a group? How is it different? [Sample answer: I can use both ways to find the total number of objects. But counting on is a quicker way because I do not need to start counting from 1. I can start counting from the greater number instead.]

Talk About Math Ideas

Have students engage in a think-pair-share to explain their process and understand their partner's process for adding 1 or 2 to any number. Listen for conversations about how their strategies involve counting on either 1 or 2 from the given number, or how they use the next greater number when adding 1, and two numbers greater when adding 2.

Revisit the Essential Question

Students may say that they start counting with the other number, and then count on 1, 2, or 3 more.

Step 3 Practice and Problem Solving | ELABORATE

15-20 min

Interactive Practice

Adaptive Practice

You may opt to have students complete automatically scored practice items online.

Name _____

Guided Practice

1. 

 $3 + 2 = 5$

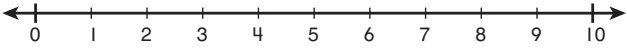
2. 

 $3 + 3 = 6$

3. 

 $8 + 2 = 10$

Practice and Problem Solving



- ✓ 4. $4 + 3 = 7$
5. $8 + 1 = 9$
6. $7 + 1 = 8$
7. $2 + 6 = 8$
8. $6 + 3 = 9$
9. $9 + 1 = 10$
10. $5 + 3 = 8$
11. $1 + 9 = 10$

Start from the greater number and count on.



Directions For 1–3, have students listen to the stories. Then have them count on and write an equation to find each sum. **Say:** 1. There are 3 carrots in a pot. Then 2 more are added. How many carrots are in the pot now? 2. There are 3 tomatoes in a pot. Then 3 more are added. How many tomatoes are in the pot now? 3. There are 8 apples in a pot. Then 2 more are added. How many apples are in the pot now? For 4–11, **Say:** Use a number line to help. Write the number that tells each sum.

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- ✓ 12. **Represent**
6 bowls of snacks.
Fills more bowls.
9 full bowls now.
How many more?
 $9 = 6 + 3$
3 more bowls

Sample equation given.
Check students' drawings.

You can draw a picture.



13. **Higher Order Thinking** How many carrots each?

Sal = 4 carrots
Jena = Sal + 3
Max = Jena + 1

- Max has 8 carrots.
Jena has 7 carrots.
Sal has 4 carrots.

STAAR Assessment Practice

- ✓ 14. Which is the sum for $5 + 2$? 1.3D
(A) 3 (B) 6
(C) 7 (D) 8

Directions 12. **Say:** Anna fills 6 bowls with snacks for a party. Then she fills more bowls until she has 9 full bowls. How many more bowls did she fill? Draw a picture or write an equation to solve. 13. **Say:** Sal has 4 carrots. Jena has 3 more carrots than Sal. Max has 1 more carrot than Jena. Count on to find out how many carrots each friend has. Then write the numbers that tell how many. 14. **Say:** Choose the sum that matches $5 + 2$.

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Guided Practice

Formative Assessment

Error Intervention Item 3

If students cannot find the number that is 2 more than 8, then have them count on 2 more from 8 to get to 10. Check that they count the first tomato as 9 and don't repeat 8.

Items 4-11 Connect Remind students that when using the counting-on strategy to add, it is quicker to start with the greater number, and then count on using the lesser number. Help them recognize that by doing so, they have to count fewer numbers and are less likely to commit an error in counting.

Practice and Problem Solving

Emergent Bilingual Student Support

Items 12-13 Encourage students to mark information that shows what they know and need to find. Have them explain the problems to a partner and then discuss different ways each problem could be solved by using a representation and writing an equation.

Language Support Use the activity in the Lesson Opener.

Item Analysis: Practice and Problem Solving

Item	DOK	TEKS	
		Content	Process
4-11	1	1.3D	
12	2	1.3D	1.1E
13	3	1.3D	
14	1	1.3D	

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Quick Check



✓ Assess lesson content with the Quick Check. Check marks in Practice and Problem Solving indicate items for prescribing differentiation. Items 4 and 14: 1 point each. Item 12: up to 3 points. See the Item Analysis on the previous page. The online Quick Check is **automatically scored** and **remediation, practice, or enrichment** will be assigned based on student performance.

0-3 points: Intervention Activity (below) and Reteach to Build Understanding Activity

4-5 points: Enrichment Activity

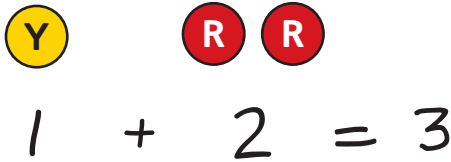
In addition, **emergent bilingual students** may benefit from the Build Mathematical Literacy Activity.

Differentiation Library DL

- Additional Differentiation Library resources are described at the start of this topic.
- Differentiation resources that support diverse learning styles are online and in the Differentiation Library Teacher’s Guide.

Intervention Activity

Materials Two-color counters (or Teaching Tool 77)



- Have students work in pairs. Give each pair 3 yellow counters and 3 red counters.
- Ask one student to lay down 1, 2, or 3 yellow counters and say the number of yellow counters.
- Ask the other student to lay down 1, 2, or 3 red counters and say the number of red counters.
- Have students work together to write an addition fact that shows how many in all.
- Repeat the steps using different numbers.

Video Tutorial Available at Savvas Realize®

Students can access this video anytime to reinforce lesson content.

▶ Another Look Video

Additional Practice

Printable or autoscored at Savvas Realize®.

Count On to Add to 10

HOME ACTIVITY Place between 1 and 7 small objects on a table and have your child count them. Then place 1, 2, or 3 more objects on the table. Ask your child to add the objects and write an addition equation for them. Repeat with a different number of objects.

2-2

Another Look!

Count on to find each sum.

Add 1. The sum is 1 more. 3, 4 3 + 1 = 4

Add 2. The sum is 2 more. 3, 4, 5 3 + 2 = 5

Add 3. The sum is 3 more. 3, 4, 5, 6 3 + 3 = 6

1. 6, 7 6 + 1 = 7

2. 5, 6, 7, 8 5 + 3 = 8

3. 7, 8, 9 7 + 2 = 9

Directions Read and review the Another Look! examples with students. Have them trace over the sums. For 1–3, Say: Count on from the starting number to find each sum. Then write the sum that completes each addition fact.

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4. Represent 5 dollars. Some more dollars. 7 dollars in all. Check students’ drawings. How many more dollars? 2 more dollars

5. Represent 7 books. 3 more books. Check students’ drawings. How many in all? 10 books in all

6. Higher Order Thinking Write the missing number. Use the picture to help! 3 + 2 = 2 + 3

7. Assessment Practice Which is the sum for 6 + 3? A 3 B 6 C 8 D 9 You can count on to help add.

Directions For 4–5, have students listen to the story. Then have them draw pictures and write the number that tells how many. 4. Say: Max earns 5 dollars. Then Max earns some more dollars. Now Max has 7 dollars. How many more dollars did Max earn? 5. Say: Emma reads 7 books. Then Emma reads 3 more books. How many books does Emma read in all? 6. Say: Write the number that makes the equation true. 7. Say: Which number is the sum for 6 + 3?

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Item Analysis: Additional Practice

Item	DOK	TEKS	
		Content	Process
1–3	2	1.3D	
4–5	1	1.3D	1.1E
6	3	1.3D	
7	1	1.3D	

Tally Up

KEY CONCEPTS

Mathematics Objective Use addition to solve a real-world problem.

Language Objective Explain predictions and solutions for real-world problems in writing and verbally.

Essential Understanding Many real-world problems can be represented with a mathematical model, but that model may not represent a real-world situation exactly.

COHERENCE

Look Back Earlier in the topic, students learned strategies to develop fluency with addition within 10.

This Lesson In this lesson, students solve a real-world problem by employing their understanding of addition.

Look Ahead In later topics, students will add and subtract with greater numbers.

BALANCE

Conceptual Understanding Students draw on their conceptual understanding of addition.

Application Students use math they know to solve a real-world problem.

Reinforce Vocabulary

model

Materials

Provide manipulatives and other tools that students request.



Teacher Resources

Available at
Savvas Realize®



Editable Lesson Plan



enVision on the Go: Planning Support

 Texas Essential Knowledge and Skills (TEKS)**Mathematical Process Standards**

The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:

1.1B use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.

1.1A apply mathematics to problems arising in everyday life, society, and the workplace.

1.1D communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.

1.1E create and use representations to organize, record, and communicate mathematical ideas.

1.1F analyze mathematical relationships to connect and communicate mathematical ideas.

1.1G display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.

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Number and operations. The student applies mathematical process standards to develop and use strategies for whole number addition and subtraction computations in order to solve problems. The student is expected to:

1.3D apply basic fact strategies to add and subtract within 20, including making 10 and decomposing a number leading to a 10.

1.3B use objects and pictorial models to solve word problems involving joining, separating, and comparing sets within 20 and unknowns as any one of the terms in the problem such as $2 + 4 = []$; $3 + [] = 7$; and $5 = [] - 3$.

1.3E explain strategies used to solve addition and subtraction problems up to 20 using spoken words, objects, pictorial models, and number sentences.

Act 1 The Hook



10-15 min

Act 1

Name _____

Tally Up

I can ... model with math to solve a problem that involves addition.

Mathematical Process Standards 1.1B The student is expected to use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution. Also **1.1A, 1.1D, 1.1E, 1.1F, 1.1G TEKS 1.3D, 1.3B, 1.3E**

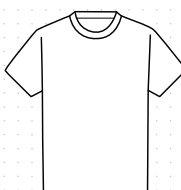
Lesson 2-7

ACT 1



ACT 1

Color.



Students will predict a range of answers. Check students' predictions.

Act 1 Directions Watch the video for Act 1. **Say:** What do you notice? What do you wonder? **Next Say:** Color to show which student you think will have the greatest total. **Then Say:** Tell why you think that.

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Students are tasked with determining which child's cards will have the greatest sum given information about the number on each card.

Play the Video **WHOLE CLASS**

Take advantage of your students' initial reactions to watching the video. Ask: **What do you notice about the video? What do you wonder?**

Brainstorm Questions **WHOLE CLASS**

Apply Math Encourage students to share their questions in a class discussion. Record their questions and store them for later. Listen for interesting mathematical and non-mathematical questions.

To help students work on posing interesting, mathematical problems, ask: **Which question do you find most interesting? Which questions could we use mathematics to answer?**

Pose the Main Question **WHOLE CLASS**

Use the Main Question screen in Act 1 to pose the problem situation students will be tasked with modeling and solving.

Main Question

Whose cards have the greatest total?

Make Predictions **INDIVIDUAL**

Point out that the prediction is only an estimate. Do not give students time to make calculations.

Ask About Predictions **WHOLE CLASS**

Analyze Survey the class for a range of predictions. Point out that, without any information, you expect a wide range of predictions. Record student predictions. Ask: **Why do you think your prediction is the answer to the Main Question? Who has a similar prediction? Who has a different prediction?**

Make sure students understand it is equally important to think about unreasonable predictions to the Main Question. Ask: **Who do you know does NOT have the greatest total? How many people might have the greatest total?**

Act 2 The Model



20-30 min

Act 2

ACT 2

Show your answer.

Check students' work.
See sample solutions.

Build G.R.I.T.
Organize your work.



ACT 3

Video Answer 9

Sample response: The student who turned over a 4 and a 5.

Act 2 Directions Say: What information do you need to answer the question? Show the Act 2 screens. **Say:** Draw how you can find the answer. **Act 3 Directions** Watch the Act 3 video. **Say:** Write the video answer. Have students compare to their answer and work.

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Sample Student Work

$$\begin{array}{r} \boxed{4} \quad 5 \ 6 \ 7 \ 8 \ 9 \quad 9 \\ | \quad | \quad | \quad | \quad | \\ \boxed{6} \quad 7 \ 8 \quad 8 \\ | \quad | \\ \boxed{7} + \boxed{0} = 7 \end{array}$$

Maria's Work

Maria says she only had to count on for two of the players. She counted on for the first two players. For the third player, she knew that a number plus 0 is the number.

Juan's Work

Juan used both near doubles and number sense. He saw that $4 + 5$ is just 1 less than $5 + 5$. He used number sense to find the sum of 7 and 0.

$$\begin{array}{l} 5 + 5 = 10, \text{ so } 4 + 5 \text{ is } 1 \text{ less. } 9 \\ 6 + 2 = 8 \\ 7 + 0 = 7 \end{array}$$

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Identify Important Information WHOLE CLASS

Before showing any information, give students time to think about what information is relevant to the problem situation. Ask: *What information do you need to answer the Main Question?* I will only give you the information you ask for.

Connect After discussing what information would be useful, ask: *How could you get that information? How would you use it?* You can also have students complete the sentence frame "If I knew _____, then I could figure out _____."

Reveal the Information WHOLE CLASS

Use the Image Gallery screen in Act 2 to reveal each piece of information. Record information as students identify it and keep the information where students can refer to it. Have students discuss whether this information matches their expectations.

Note: You may choose to show one piece of information at a time, or you may choose to show only the final image, which gives all the necessary information at once.

- Player 1: 4 and 5
- Player 2: 6 and 2
- Player 3: 7 and 0

Develop a Model SMALL GROUP

Plan To support productive struggle, observe. If needed, ask guiding questions that elicit thinking. Ask: *What assumption do you need to make to use a math model?* [The three children shown in Act 1 are the only people playing the game.]

Share Solution Strategies WHOLE CLASS

Communicate Have students share their solution methods. If needed, use the student work shown in Act 2, also shown here. Ask: *How does Maria's work show that she only counted on for two of the players? How does Juan's work show that he used near doubles and number sense?*

Update Predictions WHOLE CLASS

Explain to students that what they found in Act 2 is a mathematical answer. It's a newer, more accurate prediction based on modeling. Ask: *How does your new prediction compare to your original prediction? Do you think the real-world answer will match your answer exactly?*

Act 3 The Solution



15-30 min

Act 3

Use the Video to Reveal the Answer

WHOLE CLASS

The Act 3 video shows the first child with a total of 9, the second child with a total of 8, and the third child with a total of 7. The first child had the greatest total. Have students record this real-world answer. To support the connection between variability and mathematical modeling, ask: *Why does our class have a variety of answers, and the video has only one answer?*

Main Question Answer

The player who turned over a 4 and a 5 had the greatest total, 9.

Validate Conclusions **SMALL GROUP**

Check Encourage students to discuss possible sources of error involved in using math to model this real-world situation. Accept a model as useful even if it is not perfect. Use the Answer screen in Act 3 to ask: *How useful was your model at predicting the answer? Would you change your model after watching the video? How would you change it?*

Explain You can also use the following question to test students' understanding of the real-world situation. *Would your answer change if the third player had turned over a 7 and a 1? Explain.* [No, the player who turned over a 4 and a 5 would still have the greatest total.]

Reflect on Thinking **WHOLE CLASS**

If time allows, ask students the following questions to discuss how they incorporated math processes during the task.

Represent Explain how you used math to represent the situation. How did doing that help you answer the Main Question?

Reason How did the information given in Act 2 help you solve the problem?

Check How might you analyze and evaluate the efficiency of the approach you chose to solve the problem?

Create a Problem **INDIVIDUAL**

Have students create a problem. Write your own problem related to the video in Act 1. Include any additional information needed to solve your problem. Explain how you would use math to solve your problem. Then solve your problem. Remind students that they could use a question they came up with in Act 1.

A fourth player joins the game and turns over a 3 and a 3. How can you put the sums in order from least to greatest?

First find the sums.

The sums are:

Player 1: $4 + 5 = 9$

Player 2: $6 + 2 = 8$

Player 3: $7 + 0 = 7$

Player 4: $3 + 3 = 6$

Then put them in order : 6, 7, 8, 9.