Module 3

**Adding & Subtracting Two-Digit Numbers with Hansel & Gretel**

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**Teacher Masters**

*Pages renumber with each module.*

- Pleasant Paths ...................................................................................................................................................... T1
- Twelve Steps on the Path ........................................................................................................................................ T2
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- Ten Steps on the Path ........................................................................................................................................... 60
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**Home Connections Pages**

*Page numbers correspond to those in the consumable books.*

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Module 3

Adding & Subtracting Two-Digit Numbers with Hansel & Gretel

Overview

Hansel and Gretel are having so much fun marking the paths around their house in the woods that they decide to add a few amenities. Each of these objects has a different length; the fence sections are 10 units, the benches 5, the trash cans 2, and the flowerpots 1. This gives students all kinds of interesting opportunities to design paths of different lengths and to compute the lengths of path sections presented to them. The Hansel and Gretel theme culminates in a partner game the students make themselves involving a path 120 steps long. They spin to make jumps of 1, 2, 5, or 10, and later 20 or 30, to race from one end of the path to the other. The game can be played forward or backward and allows students to practice adding and subtracting 2-digit numbers on a number line. Two Home Connections are assigned in this module, and the Unit 7 Assessment is conducted during the last session.

Planner

<table>
<thead>
<tr>
<th>Session &amp; Work Places</th>
<th>PI</th>
<th>WP</th>
<th>A</th>
<th>HC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Session 1</strong> Ten Steps on the Path</td>
<td>●</td>
<td>●</td>
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<tr>
<td>In this session and the next, students bring a bit of comfort and civilization to their forest paths by adding fence sections, benches, and potted plants. Fence sections come in lengths of 10 steps, benches in lengths of 5 steps, and flowerpots in lengths of 1 step. After the teacher introduces the idea, students work in pairs to find different combinations of these items that total 10 steps.</td>
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<tr>
<td><strong>Session 2</strong> Twenty Steps on the Path</td>
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<td>●</td>
</tr>
<tr>
<td>Students place fence sections, benches, trash cans, and flowerpots along a section of path that is twice as long as last session’s—20 steps instead of 10—looking for many different combinations. The teacher first works with the entire class, and then students work in pairs to design and record plans for two different paths. Finally, the teacher introduces the Dots, Patterns, Blocks &amp; Apples Home Connection.</td>
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<tr>
<td><strong>Session 3</strong> The Path Game, Part 1</td>
<td>●</td>
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</tr>
<tr>
<td>Today, students work in pairs to make boards and spinners for a new game in which players race to be the first to reach 60 by making moves of 1, 2, 5, or 10. After they’ve made the game components, the teacher models how to play as students keep track of the action on their whiteboards. Then they play the game in pairs several times.</td>
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<tr>
<td><strong>Session 4</strong> The Path Game, Part 2</td>
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<tr>
<td>Students work in pairs to make the second half of the path game board. This section of the path runs from 61 to 120 and will be combined with the first section of the path next session. Today, however, the teacher leads the class in playing the Path Game using just the second section of the path and then students play in pairs a couple of times.</td>
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<tr>
<td><strong>Session 5</strong> Unit 7 Assessment</td>
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<td></td>
</tr>
<tr>
<td>The teacher shows students how to connect the two path sections to form one long Path Game board that starts at 1 and goes through 120. Students watch as two classmates play the full game and help out by doing the computations needed to figure out where the players’ markers will land. After that, they take the Unit 7 Assessment. As they finish, they meet with their partners to connect their path sections and play the Path Game. Finally, the teacher introduces the Path Practice Home Connection.</td>
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</tbody>
</table>

**PI** – Problems & Investigations, **WP** – Work Place, **A** – Assessment, **HC** – Home Connection
**Materials Preparation**
Each session includes a complete list of the materials you’ll need to conduct the session, as well as notes about any preparation you’ll need to do in advance. If you would like to prepare materials ahead of time for the entire module, you can use this to-do list.

<table>
<thead>
<tr>
<th>Task</th>
<th>Done</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Copies</strong></td>
<td></td>
</tr>
<tr>
<td>Run copies of Teacher Masters T1-T12 according to the instructions at the top of each master.</td>
<td></td>
</tr>
<tr>
<td>Run a single display copy of Student Book pages 60-61.</td>
<td></td>
</tr>
<tr>
<td>If students do not have their own Student Books, run a class set of Student Book pages 60–61.</td>
<td></td>
</tr>
<tr>
<td>If students do not have their own Home Connections books, run a class set of the assignments for this module using pages 113–116 in the Home Connections Book.</td>
<td></td>
</tr>
</tbody>
</table>
Session 1
Ten Steps on the Path

Summary
This session and next, students bring a bit of comfort and civilization their forest paths by adding fence sections, benches, and potted plants. Fence sections come in lengths of 10 steps, benches in lengths of 5 steps, and flowerpots in lengths of 1 step. After the teacher introduces the idea, students work in pairs to find different combinations of these items that total 10 steps.

Skills & Concepts
- Solve addition story problems with sums to 20 involving situations of adding to and putting together, with unknowns in all positions (1.OA.1)
- Apply the commutative and associative properties of addition to add (1.OA.3)
- Demonstrate an understanding that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps (1.MD.2)
- Reason abstractly and quantitatively (1.MP.2)
- Model with mathematics (1.MP.4)
- Look for and make use of structure (1.MP.7)

Materials

<table>
<thead>
<tr>
<th>Problems &amp; Investigations</th>
<th>Kit Materials</th>
<th>Classroom Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ten Steps on the Path</td>
<td>Unifix cubes (see Preparation)</td>
<td>a piece of copy paper to mask portions of the teacher master student crayons or colored pencils</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Work Places in Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF Shape Sorting &amp; Graphing (introduced in Unit 5, Module 4, Session 2)</td>
</tr>
<tr>
<td>6A Spin to Win Bingo (introduced in Unit 6, Module 1, Session 4)</td>
</tr>
<tr>
<td>6B What's Missing (introduced in Unit 6, Module 2, Session 4)</td>
</tr>
<tr>
<td>6C True or False? (introduced in Unit 6, Module 3, Session 3)</td>
</tr>
<tr>
<td>7A Two Turns to Build (introduced in Unit 7, Module 1, Session 4)</td>
</tr>
<tr>
<td>7B Race to Zero (introduced in Unit 7, Module 1, Session 5)</td>
</tr>
</tbody>
</table>

Vocabulary
An asterisk [*] identifies those terms for which Word Resource Cards are available.
add* after* before* beginning count* end fives length* ones* section steps tens*

Preparation
Divide all the Unifix cubes into baskets or other containers, one or more per table or cluster of desks. Each student pair will need about 50 cubes in 3 different colors.
Problems & Investigations

Ten Steps on the Path

1 Let students know that they’re going to help Hansel and Gretel make the paths around their house in the woods even better. Then read the text below to the class to set the context for today’s work.

Over the last few days, we’ve been helping Hansel and Gretel mark the walking paths near their little house in the woods. Well, now the trails are so well marked that many people who live in the village nearby are starting to use them too. So the two children decided to clean up the trails a bit. They decided it would be nice to put in some fences and some benches and plant some pretty flowers. They decided that each fence section should be 10 steps long, each bench should be 5 steps long, and each flowerpot should be only 1 step long.

2 Display the top section of the Pleasant Paths Teacher Master, keeping the picture of the path covered for now.

Read the text at the top of the sheet to the class, and give students a few moments to examine the pictures of the fence, bench, and flowerpot quietly.

3 Reveal the path on the lower half of the teacher master. Give students a minute to pair-share observations. Then discuss the path with the class.

Here are some questions you can use to spark students’ thinking:

• How many flowerpots do you see? How many steps long is each flowerpot?
• How many benches do you see? How many steps long is each bench?
• How many fences do you see? How many steps long is each fence section?
• How long is this section of the trail? How do you know? Can you find two different ways to explain how you know?

4 Working where students can see what you’re doing, use Unifix cubes in three different colors to build a fence section, a bench, and a flowerpot.

• 10 Unifix cubes in one color equals the length of one section of fence.
• 5 cubes (in a second color) equals the length of one bench.
• 1 cube (in a third color) equals the length of a flowerpot.

5 Keeping your work visible, create and display several different scenarios with the Unifix cubes, and ask students to discuss each.

• Show students two benches (i.e., two groups of 5 Unifix cubes) placed end to end in a single line. Ask them how many steps it would take to walk the length of these two benches (10 steps).
• Show students one bench, followed by 3 flowerpots. Ask them how many steps it would take to walk the length of these 4 objects if they were lined up side by side along the path (8 steps).
• Show students two sections of fence. Ask them how many steps it would take to walk the length of 2 fence sections (20 steps).

6 After discussing these examples, display your copy of the Ten Steps on the Path page, and have students find the corresponding page in their Student Books.

• Give them a few moments to examine the page quietly.
• Read and explain the instructions.
• Model each of the steps as necessary, using the Unifix cube trains you built earlier.

You will probably want to show students how to fill in the key to match the colors of your cubes and work with their input to create and color in one 10-step path on your copy of the sheet.

**CHALLENGE** In subsequent sessions, students will create longer and more complex path sections. If you feel that some students will be eager for more of a challenge today, give them copies of the Twelve Steps on the Path Teacher Master to complete with their partners instead of the Ten Steps Along the Path pages in their Student Books.

7 When students understand what to do, assign partners or have them pair themselves up and get started on the assignment.

• Have helpers distribute the containers of Unifix cubes.

• Remind students that they will need crayons or colored pencils to match the three colors of Unifix cubes they choose.

• Encourage them to collaborate with their partners in arranging the fence sections, benches, and flowerpots to form six different 10-step sequences, recording each on their sheets as they go.

• Circulate as students are working to observe and provide support as needed.

**SUPPORT** Some students might struggle with the idea that multiple objects are being used to represent single objects (5 cubes for a bench, 10 cubes for a fence section). It’s important that these students physically construct the benches and fence sections with Unifix cubes and that they do not disassemble those objects while they are completing the activity. Some might need additional scaffolding on the Ten Steps on the Path Student Book page—try lightly shading in different locations for the bench on at least several of the rows of squares on their pages. This will allow them to quickly place the bench in an appropriate location and then finish the problem by adding in the individual cubes where appropriate to represent the 5 needed flowerpots.

8 As students pairs finish the assignment, have them share and compare their work with at least one other pair in class.

![Math Practices in Action](image)

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**Work Places**

9 Have students get their Work Place folders and set out the Work Place bins when they are finished with the written assignment.

10 Close the session.

• Give students a moment to mark their Work Place Logs to indicate which games or activities they completed today.

• Have students put away the Work Place materials and hand in their Work Place folders.

• Reconvene the class and prepare for the activity next session by challenging them to come up with at least two different ways to span 20 steps along a path using only benches and fence sections. Model their solutions with Unifix cubes.
Session 2

Twenty Steps on the Path

Summary

Today, students place fence sections, benches, trash cans, and flowerpots along a section of path that is twice as long as last session’s—20 steps instead of 10—looking for many different combinations. The teacher first works with the entire class, and then students work in pairs to design and record plans for two different paths. Finally, the teacher introduces the Dots, Patterns, Blocks & Apples Home Connection.

Skills & Concepts

- Solve addition story problems with sums to 20 involving situations of adding to and putting together, with unknowns in all positions (1.OA.1)
- Solve story problems involving addition of 3 whole numbers whose sum is less than or equal to 20 (1.OA.2)
- Apply the commutative and associative properties of addition to add (1.OA.3)
- Use strategies to add with sums to 20 (1.OA.6)
- Demonstrate an understanding that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps (1.MD.2)
- Reason abstractly and quantitatively (1.MP.2)
- Model with mathematics (1.MP.4)
- Look for and make use of structure (1.MP.7)

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<td>Twenty Steps on the Path</td>
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<tr>
<td>TM T3 Path Sections</td>
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<tr>
<td>SB 61* Twenty Steps on the Path</td>
<td></td>
<td>whiteboards, pens, and erasers (class set)</td>
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<tr>
<td>Home Connection</td>
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<tr>
<td>HC 113–114 Dots, Patterns, Blocks &amp; Apples</td>
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</tbody>
</table>

Vocabulary

An asterisk [*] identifies those terms for which Word Resource Cards are available.

- add*
- after*
- before*
- beginning
- combination
- end
- equation*
- fives
- length*
- ones*
- section
- steps
- tens*
- twos

Preparation

Divide all the Unifix cubes into baskets or other containers, one or more per table or cluster of desks. Each student pair will need about 60 cubes in 4 different colors.
Problems & Investigations

Twenty Steps on the Path

1 Open today’s session by letting students know that Hansel and Gretel’s plan to add fences, benches, and flowers to the forest paths made everyone in the village very happy.

Then read the text below to the class to introduce a new feature the two children decided to add to the paths.

Now that the paths were well marked with fences and had pretty flowers along the way and nice benches to sit on, more people from the village started to take walks in the forest. On the weekends, whole families brought their picnic baskets to the woods, and the forest rang out with the sounds of children laughing and playing. Pretty soon, Hansel and Gretel started finding garbage along the trail—apple cores, orange and banana peels, old napkins—and they realized that they had forgotten to provide trash cans. They took care of this right away, and now the paths had fences, benches, trash cans, and pots filled with flowers.

2 Display the key at the top of the Path Sections Teacher Master, keeping the rest of the covered for now.

- Give students a few moments to examine the key quietly.
- Then discuss each of the items in the key with them, and note that each trash can is 2 steps long—shorter than a bench, but longer than a flowerpot.

3 Now explain that you are going to show students part of the path, and ask them to figure out how many steps long it is.

- Reveal the text below the key and the picture of the first path section on the teacher master, and read the text to the class.
- Ask the students to pair-share how long that path section is, and how they know.
- Invite several volunteers to share their thinking with the class.

Students  It’s 20 because there are 2 of those fences.
I just said 10 and 10 is 20.

Teacher  So, it would take 20 steps to walk that part of the path? Show thumbs up if you agree. Did anyone have a different way to think about the length of this part of the path?

Student  I looked at the key. It says the fences are 10, so you just go 10, 20.
4. Write an addition equation on the board to represent the length of the first path. Have students read the equation after you have written it, and show thumbs up if they agree.

\[
10 + 10 = 20 \text{ steps}
\]

5. Give each student a whiteboard, pen, and eraser, and explain that you are going to show them a different section of the path. This time, they need to write an addition equation on their board to show how long the path section is.

- Reveal the next line of text and the path section directly below it.
- Read the text to the class. Then confirm with the students that there are 2 benches and 1 fence section, and ask them to write an equation to represent the situation.
- As students finish, have them pair-share their equations, and then hold their boards up for all to see.
- Invite several volunteers to read and explain their equations to the group. Record each on the board as it is volunteered.

**Students** I wrote \(5 + 5 + 10 = 20\) because the benches are 5 and the fence is 10.

I just put \(10 + 10 = 20\) because I know 5 and 5 is 10, and then 10 more makes 20.

**Teacher** So you combined the lengths of the two benches in your head before you wrote the equation?

**Student** Yep.

6. Repeat step 5 for each of the other three path sections on the teacher master.

- Encourage students to share more than one equation for each path, and discuss how their equations are alike and how they’re different.
- When you work with the last two paths, encourage them to find the most efficient ways to add the numbers, rather than adding them from left to right, one by one. Can they, for example, find combinations of 5 or 10 that make it easier to get the total?
- Take any opportunities that arise to reinforce the fact that two or more addends can be added in any order, and the answer will remain the same.

7. Next, display your copy of the Twenty Steps on the Path page, and have students find the corresponding page in their Student Books.

- Give them a few moments to examine the page quietly.
Read and explain the instructions. You will probably not need to model each of the steps, as this assignment is very similar to the one they completed last session.

8 When students understand what to do, assign partners or have them pair themselves up and get started on the assignment.
- Have helpers distribute the containers of Unifix cubes.
- Remind students that they will need crayons or colored pencils to match the four colors of Unifix cubes they choose.
- Encourage them to collaborate with their partners in arranging the fence sections, benches, trash cans, and flowerpots to form two different 20-step sequences, recording each on their sheets as they go.
- Remind them that they need to write an addition equation to represent each of their paths.
- Circulate as they are working to observe and provide support as needed.

9 As students pairs finish the assignment, have them share and compare their work with at least one other pair in class.

Work Places

10 If time allows, have students get their Work Place folders and set out the Work Place bins when they are finished with the written assignment.

11 Close the session.
- Give students a moment to fill in their Work Place Logs to indicate which games or activities they visited and completed today.
- Have them put away the Work Place materials and hand in their Work Place folders.
- Pose some or all of the problems listed below as a way to bring closure to the activity.
  » If I had a fence section that started at 100, where would it end? How do you know?
  » If I had a fence section that started at 95, where would it end? How do you know?
  » If I had a bench that started at 50, where would it end? How do you know?
  » How many benches could I put on a section of the trail that was 20 feet long? How do you know?

Home Connection

12 Introduce and assign the Dots, Patterns, Blocks & Apples Home Connection, which provides more practice with the following skills:
- Solve addition story problems with sums to 20 involving situations of adding to and putting together, with unknowns in all positions (1.OA.1)
- Add fluently with sums to 10 (1.OA.6)
- Solve for the unknown in an addition equation involving 3 whole numbers (2 addends and a sum) (1.OA.8)
- Count by 2s (supports 1.NBT)
- Add with sums to 100 (1.NBT.4)
- Make sense of problems and persevere in solving them (1.MP.1)
Session 3
The Path Game, Part 1

Summary
Today, students work in pairs to make boards and spinners for a new game in which players race to be the first to reach 60 by making moves of 1, 2, 5, or 10. After they’ve made the game components, the teacher models how to play as students keep track of the action on their whiteboards. Then they play the game in pairs several times.

Skills & Concepts
- Read and write numerals to 120 (1.NBT.1)
- Add a 1-digit number and a 2-digit number or a multiple of 10 (up to 80) and another 2-digit number (1.NBT.4)
- Use concrete models or drawings and strategies based on place value, properties of operations, or the relationship between addition and subtraction to add with sums to 100 (1.NBT.4)
- Relate strategies for adding with sums to 100 to written methods, and use written numbers and symbols to represent those strategies (1.NBT.4)
- Explain the reasoning behind a strategy used to add with sums to 100 (1.NBT.4)
- Add with sums to 100 using strategies that involve adding tens to tens and ones to ones, composing a ten when necessary (1.NBT.4)
- Mentally find the number that is 10 more or 10 less than a given 2-digit number, without counting, and explain the reasoning behind a strategy to do so (1.NBT.5)
- Use concrete models, drawings, or strategies based on place value, properties of operations, or the relationship between addition and subtraction to subtract a 2-digit multiple of 10 from an equal or greater 2-digit multiple of 10 (1.NBT.6)
- Partition a circle into 4 equal parts, and use the terms fourths, quarters, fourth of, and quarter of to talk about the 4 equal parts into which a circle has been partitioned (1.G.3)
- Reason abstractly and quantitatively (1.MP.2)
- Construct viable arguments and critique the reasoning of others (1.MP.3)

Materials

<table>
<thead>
<tr>
<th>Ancillaries</th>
<th>Kit Materials</th>
<th>Classroom Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Problems &amp; Investigations</strong></td>
<td><strong>The Path Game, Part 1</strong></td>
<td></td>
</tr>
<tr>
<td>TM T4–T5</td>
<td>The Path Game Board</td>
<td>clear spinner overlays (1 per student pair)</td>
</tr>
<tr>
<td>TM T6</td>
<td>Path Game Spinner</td>
<td>game markers (2 per student pair, each a different color)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>student crayons or colored pencils</td>
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<tr>
<td></td>
<td></td>
<td>glue sticks (class set)</td>
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<tr>
<td></td>
<td></td>
<td>scissors (class set)</td>
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<td></td>
<td></td>
<td>rulers (class set)</td>
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<tr>
<td></td>
<td></td>
<td>whiteboards, pens, and erasers (class set)</td>
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<tr>
<td></td>
<td></td>
<td>a piece of chart paper or space on the board (see Preparation)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>large paperclips (1 for each student pair)</td>
</tr>
</tbody>
</table>

HC – Home Connection, SB – Student Book, TM – Teacher Master

Copy instructions are located at the top of each teacher master.

Vocabulary
An asterisk [*] identifies those terms for which Word Resource Cards are available.
- add*
- after*
- before*
- beginning
- equal parts
- equation*
- fives
- fourth*
- ones*
- quarter (one-fourth)
- section
- steps
- tens*
**Preparation**

Draw a key similar to the one shown below on a piece of chart paper or on the board so all students can see it.

![Key Diagram](image)

---

**Problems & Investigations**

**The Path Game, Part 1**

1. Introduce the session.
   - Let students know that they are going to work in pairs today to make boards and spinners for a new game called The Path Game.
   - They will take turns spinning a spinner that tells them how far they get to move along a path. The object of the game is to be the first player to reach the end of the path.
   - First you're going to show them how to make the game pieces. Then you'll show them how to play the game, and they'll play it with their partners.

2. Next, show students the Path Game Board Teacher Masters, and demonstrate how to number the squares, cut the strips apart, and glue them together in order to form a long, straight path numbered from 1 to 60.
   - Display the first of the two teacher masters and note with the students that each of the three strips begins and ends with a number. Explain that they need to write in the rest of the numbers on each strip before they do anything else.
   - Work with students’ input to fill in the numbers on your copy of the first sheet.
• Show the second sheet, and explain that while one partner numbers the strips on the first sheet, the other partner should do the same on the second sheet.
• Explain that when both partners are finished numbering the strips on their sheets, they should work together to cut the strips out and glue them together to form a long path that starts at 1 and goes to 60.
• Demonstrate how to cut and glue a few of the strips. As you do so, stress precision: cutting out the strips carefully, attaching them in numerical order, keeping the strip straight, and not covering up any squares or numbers.
• Tell students to write both of their names on the back of their path once they have it put together.

Note Do not trim the glue tab off the last strip in the set (the one that ends with 60), as students will extend the path during Session 5.

3 Next, display a copy of one of the Path Game Spinner Teacher Masters you’ve cut in half, along with a ruler and a pencil. Use the master and the tools to show the students how to make the spinner they’ll need to play the game.
• Note with students that there is a dot at the center of the circle, and show them how to use it, along with a ruler, to divide the circle into fourths.
• Call students’ attention to the key you’ve posted, and explain that they need to label each of the quarters of the circle with one of the pictures and its matching number. When they spin, they will land on the flowerpot, the trash can, the bench, or the fence section and get to move that many steps along the game board.
• Quickly label your copy of the spinner as the students watch, and show them how they will use the clear spinner overlay to make their spins.
• Tell students not to cut out the circle, but to label the half-sheet of paper with their names.

4 When students understand what to do, assign partners or have them pair themselves. Give each pair one copy of the Path Game Board Teacher Masters and half a copy of the Path Game Spinner Teacher Master, and have them go to work.
• Circulate as they’re working to observe and assist as needed.
• If some of the student pairs finish before others, encourage them to decorate the outer borders of the game board and the spinner, perhaps using a forest theme with plants, trees, and small animals one might find in the woods.

5 When most of the student pairs have finished making their game boards and spinners, reconvene the class in the discussion area.
• Have students leave their materials at their tables for now, but each collect a whiteboard, pen, and eraser to bring to the discussion area so they can help you keep track of your moves when you show them how to play the game.
• Borrow a finished game board and spinner from one of the pairs, and lay these out in the middle of the circle where you can reach them and all can see them.
• Show students the other things they’ll need to play the game—a clear spinner overlay and two game markers, each a different color.
• Select a student to play with you.

6 Show students how to play the game by modeling it with your partner as they watch and track your moves on their whiteboards.
• Set both game markers at the beginning of the path, not yet on the 1 but slightly off the board.
• Spin the spinner and report the result to the students. Move your marker by the designated amount in a single jump rather than counting the steps one by one.
• Have your partner take a turn.
• Spin the spinner for your second turn and report the spin to the class. Remind students where you are right now, and challenge them to figure out where you’ll land if you move the amount indicated on the spinner.
Teacher  OK, I just landed on the fence. That means I get to move 10.
I'm on the 5 right now. If I move 10 more, where will I land on the path?
Talk to the person next to you, and show thumbs up when you believe you have the answer.

Student  The 15—you get to move up to the 15.
Teacher  Thumbs up if you agree... OK, looks like most people agree with you. How did you figure it out?

Students  Because 5 and 10 is 15.
If you put 5 with 10, it makes 15.

- Borrow a whiteboard and pen from one of the students and write an equation to represent the situation—the number on which you presently sit, the number you spun, and the total. Ask students to do the same on their boards, and hold them up to show.
- Then make your move.
- Have your partner take his second turn. This time, have students write an equation to represent the situation and hold up their boards to show without modeling it for them.

Teacher  OK, partner, looks like the class thinks you get to move your marker up to the 7th step on the path. Do you agree?

Student  Yep, because I was on the 2, and I got 5, and that makes 7.

Continue taking turns with your partner while the rest of the students write equations to show where your markers should land each time. Play until one of you reaches or goes past 60—the end of the path.

When there are interesting or challenging combinations, such as 17 + 5 or 23 + 10, invite volunteers to share their strategies for finding the answer. Encourage students to generate strategies more sophisticated than counting on by ones, and if none are forthcoming, share them yourself.

Teacher  My partner is on the 17, and he just spun a 5. Where will he land? Please write and solve an equation on your board, and hold it up when you’re ready. OK, who would like to share the answer and explain their work?

Student  I got 22. I just counted on my fingers from 17, see? I went 17… 18, 19, 20, 21, 22.

Teacher  OK, so you used a counting-on strategy. Did someone have a different strategy?

Student  I took 3 from the 5 and put it with 17 to make 20. Then I knew it was 2 more, so I got 22.

Teacher  Interesting—so you split the 5 and used part of it to get to 20, which is a very friendly number.
Then give each pair of students a clear spinner overlay and two game markers, and send them back to their tables to play the game several times. They don’t need whiteboards to play the game.

- Have them put their whiteboards, pens, and erasers away as they return to their tables.
- Circulate to observe and assist as students are playing. Encourage them to do the computations mentally that will allow them to make the moves they spin in single jumps rather than counting out the steps one by one.

**This will be easier for some students than others, and it’s likely that some of your first graders will continue to count every step along the path one by one as soon as you move on to the next table. Even the student who knows that 23 plus 10 is 33 might jump his marker on each of the 10 squares between 23 and 33 just to be sure. Nevertheless, it is well worth your time and effort to continue to support students in developing strategies beyond counting on, even if they have to confirm their thinking by hopping on every square.**

**CHALLENGE** Invite students who are playing the game easily and successfully to start at 60 and race backward down the track to 1. They will use the same spinner to determine how many steps they get to move each time, but they will subtract the amount spun each time instead of adding it. The first player to reach or cross the beginning of the path wins.

Close the session, setting aside game paths and spinners for future use.

- Show students how to gently fold their game path twice without creasing it and use a large paperclip to fasten it. Collect students’ paths and the spinners. Set the paths aside for use in Session 5; students will need their spinners again next session.
- Collect the spinner overlays and game markers.
- Let students know that they will make the second part of the path tomorrow and use it, along with the spinners they made today, to play the Path Game again.
Session 4
The Path Game, Part 2

Summary
Students work in pairs to make the second half of the path game board. This section of the path runs from 61 to 120 and will be combined with the first section of the path next session. Today, however, the teacher leads the class in playing the Path Game using just the second section of the path and then students play in pairs a couple of times.

Skills & Concepts
- Read and write numerals to 120 (1.NBT.1)
- Add a 1-digit number and a 2-digit number or a multiple of 10 (up to 80) and another 2-digit number (1.NBT.4)
- Use concrete models or drawings and strategies based on place value, properties of operations, or the relationship between addition and subtraction to add with sums to 100 (1.NBT.4)
- Relate strategies for adding with sums to 100 to written methods, and use written numbers and symbols to represent those strategies (1.NBT.4)
- Explain the reasoning behind a strategy used to add with sums to 100 (1.NBT.4)
- Add with sums to 100 using strategies that involve adding tens to tens and ones to ones, composing a ten when necessary (1.NBT.4)
- Mentally find the number that is 10 more or 10 less than a given 2-digit number, without counting, and explain the reasoning behind a strategy to do so (1.NBT.5)
- Use concrete models, drawings, or strategies based on place value, properties of operations, or the relationship between addition and subtraction to subtract a 2-digit multiple of 10 from an equal or greater 2-digit multiple of 10 (1.NBT.6)
- Reason abstractly and quantitatively (1.MP.2)
- Construct viable arguments and critique the reasoning of others (1.MP.3)

Materials

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<tr>
<th>Copies</th>
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<td>Problems &amp; Investigations</td>
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<td>TM T7–T8</td>
<td>The Path Game Board, Part 2</td>
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<td>clear spinner overlays (1 per student pair)</td>
<td>Path Game Spinners (TM T6, from previous session; 1 per student pair)</td>
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<td>game markers (2 per student pair, each a different color)</td>
<td>student crayons or colored pencils</td>
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<td>glue sticks (class set)</td>
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<td>scissors (class set)</td>
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<td></td>
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<td>whiteboards, pens, and erasers (class set)</td>
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</table>

HC – Home Connection, SB – Student Book, TM – Teacher Master
Copy instructions are located at the top of each teacher master.

Vocabulary
An asterisk [*] identifies those terms for which Word Resource Cards are available.
add*  after*
before*  beginning
end*  equation*
one*  section
step*  tens*
Problems & Investigations

The Path Game, Part 2

1. Let students know that they’re going to work with their partners from the previous session to make another section of the game board for the Path Game. Explain that this section will start at step 61 and go up to 120. After they’ve made the new section, they’ll play the Path Game again, using their spinners from yesterday and the new part of the path. Tomorrow, they’ll put their path sections together to have a game board that starts at 1 and goes all the way up to 120.

2. Next, show students the Path Game Board, Part 2 Teacher Masters, and demonstrate how to number the squares, cut the strips apart, and glue them together in order to form a long, straight path numbered from 61 to 120.
   - Display the first of the two teacher masters and note with them that each of the three strips begins and ends with a number. Explain that they need to write in the rest of the numbers on each strip before they do anything else.
   - Work with students’ input to fill in the numbers on the first strip.

   ![Path Game Board, Part 2 page 1 of 2]

   - Show the second sheet, and explain that while one partner numbers the strips on the first sheet, the other partner should do the same on the second sheet.
   - Explain that when both partners are finished numbering the strips on their sheets, they should work together to cut the strips out and glue them together to form a long path that starts at 61 and goes to 120.
   - Briefly review how to cut and glue the strips together in numerical order.
   - Remind students to write both of their names on the back of their new path once they have it put together.

3. When students understand what to do, have them pair up with their partners from last session. Give each pair one copy of the Path Game Board Part 2 Teacher Masters, and have them go to work.
   - Circulate as they work to observe and assist as needed.
   - If some of the student pairs finish before others, encourage them to decorate the outer borders of the new path section.
When most of the student pairs have finished making their paths, reconvene the class in the discussion area.

- Have students leave their materials at their tables for now, but each collect a whiteboard, pen, and eraser to bring to the discussion area so they can help you keep track of your moves as you review how to play the game.
- Bring a spinner from the previous session, and borrow one of the new paths from a pair of students. Lay these out in the middle of the circle where you can reach them and all can see them.
- Select a student to play with you.

Set both game markers near the start of the game board, but not yet on it. Ask the students to determine the step on which your markers would be sitting if they were playing with the complete game board instead of the second half.

Teacher OK, we're ready to start. If we were using the whole path instead of just the part you made today, what number would our markers be on right now? Talk with the person sitting next to you and show thumbs up when you have an answer.

Students Are they on the 1?
It's 60! It has to be, because 60 is right before 61.

Teacher What do the rest of you think? Shall we get one of the paths you made yesterday and set it next to the new path to see what number the markers would be sitting on?

Students It has to be 60! That was the last number on the path from yesterday. This is like the next part—it's like the path just keeps going. Let's put on the other path so we can see for sure!

Review how to play the game by modeling it with your partner as the students watch and track your moves on their whiteboards.

As you and your partner take turns spinning and moving, have the rest of the students write equations to show where your markers should land each time, just as they did last session. When there are interesting or challenging combinations, such as 62 + 10 or 66 + 5, invite volunteers to share their strategies for finding the answer. Summarize and compare the strategies as they're shared, with the intent of helping students see possibilities beyond counting on.

Teacher I landed on 62 last time, and now I spun 10. Where will my marker land when I make a jump of 10? Please write and solve an equation on your board, and hold it up when you’re ready. OK, who would like to share the answer and explain their work?
Student A: I got 72. I started with 62 and made 10 tally marks. Then I counted them—62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72.

Teacher: OK, you used a Counting On strategy. Did someone have a different strategy?

Student B: I took 8 from the 10 and put it with 62 to make 70. Then I knew it was 2 more, so I got 72.

Teacher: So you split the 10 and used part of it to get to 70, and then added the last 2 to get 72. Anyone else use a different strategy?

Student C: I just knew it was going to be 72. It’s like counting by 10s. You can go 10, 20, 30, 40, 50, 60, 70, but there’s a 2 instead of a 0, so it’s 62, then 72 instead of 60, then 70.

Teacher: It sounds like you were thinking about counting by 10s off-decade, the way we count sometimes in Number Corner.

7 Continue taking turns with your partner until one of you reaches or goes past 120—the end of the path.

8 Then give each pair of students a clear spinner overlay and two game markers, and send them back to their tables to play the game several times.
   - Have them put their whiteboards, pens, and erasers away as they return to their tables; they don’t need them to play the game.
   - Ask them to do the computations mentally that will allow them to make the moves they spin in single jumps rather than counting out the steps one by one.

   **CHALLENGE** Invite students who are playing the game easily and successfully to start at 120 and race backward down the track to 61. They will use the same spinner to determine how many steps they get to move each time, but they will subtract the amount spun each time instead of adding it. The first player to reach or cross 61 wins.

9 Close the session, setting aside game paths and spinners for use next session.
   - Give each pair of students the path they made last session, and have them clip the two path sections as well as their spinner together.
   - Collect their game components, spinner overlays, and game markers.
   - Remind them that next session, they will put the two halves of the path together to form one long game board that goes from 1 to 120 and play the Path Game with a path that is twice as long as either of the sections they’ve used so far.
Session 5
Unit 7 Assessment

Summary
The teacher shows students how to connect the two path sections to form one long Path Game board that starts at 1 and goes through 120. Students watch as two classmates play the full game and help out by doing the computations needed to figure out where the players’ markers will land. After that, they take the Unit 7 Assessment. As they finish, they meet with their partners to connect their path sections and play the Path Game. Finally, the teacher introduces the Path Practice Home Connection.

Skills & Concepts
- Read and write numerals to 120 (1.NBT.1)
- Add a 1-digit number and a 2-digit number or a multiple of 10 (up to 80) and another 2-digit number (1.NBT.4)
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- Add with sums to 100 using strategies that involve adding tens to tens and ones to ones, composing a ten when necessary (1.NBT.4)
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<td></td>
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<tr>
<td>TM T9 A New Spinner</td>
<td>• clear spinner overlays (1 per student pair)</td>
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<td>• game markers (2 per student pair, each a different color)</td>
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<td>• several sheets of chart paper or space on the board</td>
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<td>• marking pens</td>
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<td>• students’ path sections and spinners from the previous two sessions</td>
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<td>• glue sticks (class set)</td>
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<td>HC 115–116 Path Practice</td>
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HC = Home Connection, SB = Student Book, TM = Teacher Master
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Vocabulary
An asterisk [*] identifies those terms for which Word Resource Cards are available.
- add*
- after*
- before*
- beginning
- end
- equation*
- ones*
- section
- steps
- tens*
Problems & Investigations

Connecting the Paths & Playing the Game

1. Introduce today’s activities.
   - Let students know that you are going to show them how to connect the two path sections to make one long game board for the Path Game. Then they’ll watch and help as two students play the entire game using a special new spinner.
   - After that, they’ll take the Unit 7 assessment to help you see how they’re doing with counting, reading, and writing numbers to 120, as well as adding and subtracting large numbers.
   - When they’re finished with the assessment, they’ll meet with their partners from last session to connect their path sections and play the game themselves.

2. Borrow a set of game components from the stack you collected at the end of the previous session—two path sections and a spinner.
   You will also need a copy of the New Spinner Teacher Master, a glue stick, a pair of scissors, a clear spinner overlay, and two game markers.

3. As you gather your materials, have students move to the discussion area and seat themselves in a circle.

4. Show students how to fasten the two path sections together, using the tab at the end of the first section to glue on the second section.

5. Then show them the new spinner, noting that this spinner has no illustrations, and that there are now six numbers instead of four.
   The inclusion of 20 and 30 on the spinner, along with 1, 2, 5, and 10, makes it possible to take much longer jumps along the path, which is now twice as long as it was before.

6. Explain that you’re going to choose two students to play the game as the class watches and helps figure out where the game markers should land each time.
   Let them know that this will give them some more practice adding large numbers and will make it easier for them to play the game later in the session.

7. Have two students play the game as their classmates watch and participate by helping make the calculations needed to move the markers quickly and efficiently down the path.
   - Help those two students get situated in the discussion area so the rest of the class has a good view.
   - Have each of these students take one turn. Then record equations on chart paper or board to represent each player’s subsequent turns.
   - Have the class pair-share and report out the answer to each equation. Stop to have students share and explain their strategies for solving at least some of the combinations that involve adding 1-digit to 2-digit numbers or multiples of 10 to 2-digit numbers.
   - Take time to have students compare the position of each player on the path several times during the game, asking who is ahead by how much, and how far each player has to go to reach the end of the path at 120.
Teacher  Which of our two players is ahead right now?

Students  Tamika!
She’s on 47 and Derek is only on 43.

Teacher  How far is Tamika ahead of Derek? Talk with the person sitting next to you, and show thumbs up when you have the answer.

Students  She’s ahead by 4 right now.
You can see it’s 4, and you can also count 43… 44, 45, 46, 47.
She’s not very far ahead.

Teacher  Derek, it’s your turn to spin. What did you get?

Student  Twenty!

Teacher  What equation do we need to record for Derek’s turn this time?

Students  Um, 43 and 20 more.
I already know the answer! He’s going to land on 63!

Teacher  Talk to the person next to you. Do you agree that Derek is going to land on 63, or not? I’ll call on a couple of people to share their answers and strategies in a minute (gives students time to pair-share).

Student  It’s 63 because you can go 43, 53, 63.

Teacher  You’ve counted by 10s off-decade to get the answer. Did someone have a different strategy?

Student  You can go up 7 to get on 50. Then you go 10 more to get on 60. You still have 3 more, so it’s 63.

Teacher  You took the 20 apart and used it to get to very friendly numbers along the line—50, and then 60. Did someone have a different strategy?

Student  We used all our fingers and counted on 20, but it took a long time.

Teacher  Yes, it’s true that when you’re adding numbers like 20 and 30, counting on really does take a long time, doesn’t it? Did anyone have a different strategy for solving this problem?

Student  I just put 20 with 40. That’s 60, and then 3 more is 63.

Teacher  That’s an interesting strategy. Let’s write that one on the chart. She put the 40 and the 20 together first and got 60. How did you know the answer was 60?

Student  Because it’s like 4 and 2, just with 10s instead, so it’s 60, and then 60 + 3 is easy.
Assessment

Unit 7 Assessment

8 Have students return to their tables or desks and get out their pencils in preparation for completing the Unit 7 Assessment.

Remind them that when you conduct an assessment like this, you need to see what students can each do on their own. Change the seating arrangements to spread them apart if necessary, and give them each a privacy screen. Show them how to use the screen to shield their work, and explain that even though you usually ask them to work together, this time, they need to do their own work.

9 When students are situated with their pencils and privacy screens, give them each a copy of the Unit 7 Assessment and place a copy on display.

- Read and explain the instructions for each problem.
- Do the practice item for problem 4 with the students. Guide them to write an equation that matches the order of the items along the path \((5 + 1 + 1 + 1 + 1 + 5)\) or \((5 + 4 + 5)\), and then encourage them to find the easiest way possible to add the numbers. Remind them that they do not have to add the numbers in order, and challenge them to find a combination of 10 and work from there if possible.

10 When students understand what to do, let them go to work and take as much time as they need to solve the problems.

Circulate and assist as needed. It’s fine to reread one or more of the problems to individuals or to the entire class if necessary.

SUPPORT If you feel your students will do better by moving ahead only one problem at a time, waiting each time until everyone has finished and having you read and explain just the next problem, you can conduct the assessment this way. Or, you might let some students work independently while keeping others together to complete the problems one by one under your guidance.

11 As students finish the assessment and turn it in, have them find their partner from the previous session, get their materials, glue the two halves of their game board together, and play the Path Game as many times as they can in the time remaining.

- To avoid interruptions while you are helping other students complete the assessment, lay students’ clipped packets of path sections and spinners out along a counter or on a table somewhere in the room, along with clear spinner overlays, game markers, and copies of the new spinner.
- Let students know they can play the game with the new spinner, or with the spinner from the last session if they prefer.

CHALLENGE Invite students who are playing the game easily to start at 120 and race backward down the track to 1. They will use the same spinner to determine how many steps they get to move each time, but they will subtract the amount spun each time instead of adding it. The first player to reach or cross the beginning of the path wins.

12 Close the session.

Note
You will find resources for scoring students’ work and recording the class set of results in the Grade 1 Assessment Guide.
Home Connection

13  Introduce and assign the Path Practice Home Connection, which provides more practice with the following skills:

- Count to 120, starting with any number less than 120, including 0 or 1 (1.NBT.1)
- Read and write numerals to 120 (1.NBT.1)
- Add a 1-digit number and a 2-digit number or a multiple of 10 (up to 80) and another 2-digit number (1.NBT.4)
- Mentally find the number that is 10 more than a given 2-digit number, without counting (1.NBT.5)
Pleasant Paths

Hansel and Gretel decided to make the walking paths around their house in the woods even more pleasant by adding fences, benches, and flowers in pots.

Here’s how these things will look when they’re placed along the path.
Twelve Steps on the Path

**CHALLENGE** Work with your partner to plan some different ways to make a nice path section that is 12 steps long.

- Decide what color Unifix cubes to use for the fence sections, the benches, and the flowerpots. Use a different color for each type of object.
- Build 4 fence sections, 4 benches, and 12 flowerpots in the colors you chose.
- Color the cubes in the key to show what color you are using for each object.
- Make different arrangements of the fence sections, benches, and flowerpots to fill a path that is 12 steps long.
- Color in each arrangement on the path sections below. Use crayons or colored pencils in colors to match the Unifix cubes.

**KEY**

<table>
<thead>
<tr>
<th>Fence Section</th>
<th>10 steps</th>
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<tbody>
<tr>
<td>Bench</td>
<td>5 steps</td>
</tr>
<tr>
<td>Flowerpot</td>
<td>1 step</td>
</tr>
</tbody>
</table>

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1 Fence Section = 10 steps
1 Bench = 5 steps
1 Flowerpot = 1 step
Path Sections

**KEY**

- Fence section = 10 steps
- Bench = 5 steps
- Trash can = 2 steps
- Flowerpot = 1 step

How long is this section of the path? How do you know?

Write and solve an addition equation to find out how long each path section is.
**Path Game Board**

Unit 7  Module 3
Session 3  Half-CLASS set, plus a few extra
Path Game Board  page 2 of 2

31 40

41 50

51 60
Path Game Spinner

Path Game Spinner
Path Game Board, Part 2

Session 4

61 70

71 80

81 90
Path Game Board, Part 2  page 2 of 2

Session 4  Half-class set, plus a few extra
A New Spinner

A New Spinner
1. Write the number that belongs in each empty box. Use the clues on the paths to help.

**KEY**
- Bread crumb every 1 step
- Pinecone every 5 steps
- Pebble every 10 steps

**a**

```
  51
```

**b**

```
  83
```

**c**

```
  100
```
2  Jon is playing the Path Game with his friend. He is on 47 and spins a 5. Where will his marker land? Write and solve an equation to help Jon. Use numbers or pictures to show how you got the answer.

3  Amara is playing the Path Game with her friend. She is on 52 and spins a 20. Where will her marker land? Write and solve an equation to help Amara. Use numbers or pictures to show how you got the answer.
4 Write and solve an addition equation to find out how long each path section is. Use the key to help. (Hint: You don’t have to add the numbers in order.)

**KEY**

- Fence section = 10 steps
- Bench = 5 steps
- Trash can = 2 steps
- Flowerpot = 1 step

**Practice**

<table>
<thead>
<tr>
<th>Fence section</th>
<th>Bench</th>
<th>Trash can</th>
<th>Flowerpot</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 steps</td>
<td>5 steps</td>
<td>2 steps</td>
<td>1 step</td>
</tr>
</tbody>
</table>

b

a

5 Add.

\[
20 + 10 = \underline{\phantom{00}} \quad 43 + 5 = \underline{\phantom{00}} \quad 67 + 10 = \underline{\phantom{00}} \quad 26 + 20 = \underline{\phantom{00}}
\]

6 Subtract.

\[
30 - 10 = \underline{\phantom{00}} \quad 50 - 20 = \underline{\phantom{00}} \quad 60 - 30 = \underline{\phantom{00}} \quad 55 - 10 = \underline{\phantom{00}}
\]
Ten Steps on the Path

Work with your partner to plan some different ways to make a nice path section that is 10 steps long.

- Decide what color Unifix cubes to use for the fence sections, the benches, and the flowerpots. Use a different color for each type of object.
- Build 2 fence sections, 4 benches, and 10 flowerpots in the colors you chose.
- Color the cubes in the key to show what color you are using for each object.
- Make different arrangements of the fence sections, benches, and flowerpots to fill a path that is 10 steps long.
- Color in each arrangement on the path sections below. Use crayons or colored pencils to match the Unifix cubes.

**KEY**

- 1 Fence Section = 10 steps
- 1 Bench = 5 steps
- 1 Flowerpot = 1 step
Twenty Steps on the Path

Work with your partner to plan some different ways to make a nice path section that is 20 steps long.

- Decide what color Unifix cubes to use for the fence sections, the benches, the trash cans, and the flowerpots.
- Build 2 fence sections, 4 benches, 5 trash cans, and 10 flowerpots in the colors you chose.
- Color the cubes in the key to show what color you are using for each object.
- Make different arrangements of the fence sections, benches, trash cans, and flowerpots to fill a path that is 20 steps long.
- Color in each arrangement on the path sections below. Use crayons or colored pencils to match the Unifix cubes.
- Write an addition equation under each path to show that it is really 20 steps long.

**KEY**

1 Fence Section = 10 steps  
1 Bench = 5 steps  
1 Trash Can = 2 steps  
1 Flowerpot = 1 step

---

Use the path sections to create different arrangements and color in the cubes accordingly. Write addition equations under each path to verify the total is 20 steps.
Dots, Patterns, Blocks & Apples page 1 of 2

1 Fill in the missing numbers to complete the addition facts.

\[
\begin{array}{cccc}
\hline
& & \bullet & \bullet \\
& \bullet & \bullet & \bullet \\
+ & & & \\
\hline
& 7 & & \\
\end{array}
\]

\[
\begin{array}{cccc}
\hline
& & \bullet & \bullet \\
& & \bullet & \bullet \\
+ & & & \\
\hline
& 9 & & \\
\end{array}
\]

\[
\begin{array}{cccc}
\hline
& & \bullet & \bullet \\
& & \bullet & \bullet \\
+ & & & \\
\hline
& 10 & & \\
\end{array}
\]

\[
\begin{array}{cccc}
\hline
& & \bullet & \bullet \\
& & \bullet & \bullet \\
+ & & & \\
\hline
& 8 & & \\
\end{array}
\]

2 Fill in the missing dots and numbers to complete the addition facts.

\[
\begin{array}{cccc}
\hline
& & \bullet & \bullet \\
& & \bullet & \bullet \\
+ & & & \\
\hline
& 2 & & \\
\end{array}
\]

\[
\begin{array}{cccc}
\hline
& & \bullet & \bullet \\
& & \bullet & \bullet \\
+ & & & \\
\hline
& 5 & & \\
\end{array}
\]

\[
\begin{array}{cccc}
\hline
& & \bullet & \bullet \\
& & \bullet & \bullet \\
+ & & & \\
\hline
& 12 & & \\
\end{array}
\]

\[
\begin{array}{cccc}
\hline
& & \bullet & \bullet \\
& & \bullet & \bullet \\
+ & & & \\
\hline
& 3 & & \\
\end{array}
\]

3 Make up your own combinations for these numbers. Fill in the dots and numbers.

\[
\begin{array}{cccc}
\hline
& & \bullet & \bullet \\
& & \bullet & \bullet \\
+ & & & \\
\hline
& 10 & & \\
\end{array}
\]

\[
\begin{array}{cccc}
\hline
& & \bullet & \bullet \\
& & \bullet & \bullet \\
+ & & & \\
\hline
& 9 & & \\
\end{array}
\]

\[
\begin{array}{cccc}
\hline
& & \bullet & \bullet \\
& & \bullet & \bullet \\
+ & & & \\
\hline
& 5 & & \\
\end{array}
\]

\[
\begin{array}{cccc}
\hline
& & \bullet & \bullet \\
& & \bullet & \bullet \\
+ & & & \\
\hline
& 7 & & \\
\end{array}
\]

4 Fill in the missing numbers to complete the pattern.

\begin{itemize}
  \item \textbf{a} Skip-count by 2s.
    \begin{align*}
    & 22, 24, 26, \ldots, \ldots, \ldots \\
    \end{align*}
  \item \textbf{b} Skip-count by 2s.
    \begin{align*}
    & 27, 29, 31, \ldots, \ldots, \ldots \\
    \end{align*}
  \item \textbf{c} Skip-count down by 2s.
    \begin{align*}
    & 19, 17, 15, \ldots, 11, \ldots \\
    \end{align*}
  \item \textbf{d} Skip-count down by 2s.
    \begin{align*}
    & 43, 41, \ldots, \ldots, 35 \\
    \end{align*}
\end{itemize}

(continued on next page)
5  Rosa has 6 blocks. Eric has 7 more blocks than Rosa. How many blocks does Eric have? Show your work.

Eric has __________ blocks.

6  CHALLENGE  4 apples cost $1.00. How much will Jenny have to pay for 5 apples? Show your work.

Jenny will have to pay __________ for 5 apples.
Path Practice page 1 of 2

Answer the questions about each path. Remember that each fence section is 10 steps long, each bench is 5 steps long, and each flowerpot is 1 step long.

1. The fence on this path begins at step 32.

   ![Fence diagram with steps and boxes]

   - a. What number belongs in the box at the end of the fence? _______
   - b. What number belongs in the box at the beginning of the bench? _______
   - c. What number belongs in the box below the last flowerpot? _______

2. The first fence section on this path begins at step 53.

   ![First fence section diagram]

   - a. What number belongs in the box at the end of the first fence section? _______
   - b. What number belongs in the box at the end of the second fence section? _______

(continued on next page)
The first flowerpot on this path is set on step 19.

3  The first flowerpot on this path is set on step 19.

[Picture of a path with flowerpots and benches]

19  20  21

a  What number belongs in the box below the last flowerpot? _______

b  What number belongs in the box at end of the last bench? _______

4  Fill in the boxes with the correct numbers. Remember that each fence section is 10 steps long, each bench is 5 steps long, and each flowerpot is 1 step long.

[Picture of a path with numbers 45, 75, and 62]

45  75  62

5  **CHALLENGE**  Write a story problem to match the equation in the box. Then solve your own problem and write the answer.

42 + 23 = [Blank]

[Picture of a path with a question mark]