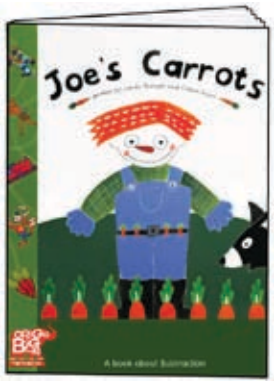
Joe's Carrots

A book about subtraction



Aim

Subtraction can be represented using three different models: missing addend, take away, and difference (comparison). *Joe's Carrots* introduces missing-addend subtraction. The story is also used to link missing-addend to take-away subtraction.

These whole-class activities provide students with the opportunity to:

- listen to a story about a subtraction situation
- use materials to act out take-away and missing-addend subtraction situations
- use the *Teaching Tool* to act out take-away and missing-addend subtraction situations
- complete, represent, and develop addition and subtraction number sentences
- use the think-addition strategy to solve subtraction problems

Activities

1. Listening to the story
2. Using materials to act out the story
3. Using the teaching tool to act out the story
4. Using the teaching tool to create different take-away situations and write matching number sentences
5. Linking missing-addend subtraction to take-away subtraction 1
6. Linking missing-addend subtraction to take-away subtraction 2
7. Using the teaching tool to solve missing-addend problems
8. Solving missing-addend problems
9. Figuring out the missing addend

I. Listening to the story

Resources

- *Joe's Carrots*

Activity

Show the cover of *Joe's Carrots* to the students and read the title aloud. Encourage volunteers to predict what the story might be about. Slowly read the story and discuss each double-page spread. Ask, **What happened in the story?** Encourage students to explain that carrots were being taken from the row of twelve carrots in Joe's garden. Read the story again and for each double-page spread, ask, **What was the total number of carrots at the beginning of the story? How many carrots have been taken away? How many are left?** Ensure the students to explain their thinking.

2. Using materials to act out the story

Resources

- Support 1 – see attached
- Connecting cubes

Preparation

Print copies of Support 1 and cut out the number mats. Each student will need a number mat and twelve connecting cubes.

Activity

Write *12* – ____ = ____ on the board. Read pages 2–3 of *Joe's Carrots* aloud and have the students place cubes on their number mat to model the carrots in Joe's garden. Ask, **What is the total number of carrots?** Read pages 4–5 and ask, **How many carrots have been taken away?** Have the students remove three cubes from their number mat. Write ***3*** in the number sentence on the board. Finally, have the students count together the number of carrots remaining and then complete the number sentence on the board. Repeat for each double-page spread in the story.

3. Using the teaching tool to act out the story

Resources

- *Teaching Tool*
- *Joe's Carrots*

Activity

Ensure that all the students can see the *Teaching Tool*. Read pages 2–3 of *Joe's Carrots* aloud and select a volunteer to recreate the scene by dragging twelve carrots into Joe's garden on the work area. Invite another student to use the writing tool write the total number of carrots on the sign. (*Note:* This number will not change throughout the activity.) Read pages 4–5 and select a volunteer to recreate the take-away by removing three carrots. These can be placed back in the tray. Guide another volunteer to write the matching number sentence in the white panel at the base of the screen. Ask, **What was the total number of carrots at the beginning of the story? How many carrots have been taken away? How many carrots are left? How do you know?** Repeat for each double-page spread in the story.

4. Using the teaching tool to create different take-away situations and write matching number sentences

Resources

- *Teaching Tool*
- Connecting cubes

Preparation

Each group of students will need 15 connecting cubes.

Activity

Have the students use the cubes to create their own subtraction situation for Joe's garden. The total number of carrots can be any number up to 15. Have them write the subtraction number sentence to match. When all the groups are finished, ensure that all the students can see the *Teaching Tool*. Invite one group at a time to demonstrate their subtraction story and write the matching subtraction number sentence on the *Teaching Tool*.

5. Linking missing-addend subtraction to take-away subtraction

Resources

- *Joe's Carrots*
- Sheet of paper

Activity

Read *Joe's Carrots* aloud stopping at the end of each double-page spread. Cover the missing carrots with a sheet of paper and ask, **How can we figure out how many carrots have been taken away? What do we know? We know that the total number of carrots was 12. We know that 9 carrots are left.** Write *9 + ___ = 12* on the board. Then ask, **What number can we add to 9 to make 12? How many carrots are in the part that is covered? How do you know?** Invite a volunteer to complete the number sentence. Repeat for each double-page spread in the story.

6. Linking missing-addend subtraction to take-away subtraction

Resources

- Support 2 – see attached

Preparation

Print a copy of Support 2 for each student.

Activity

Distribute the worksheets and read the instructions to the students. Work through the first question with them. Ask, **What number can we add to 5 to make 10?** Have the students draw more dots on the domino to show the total. Point to the subtraction sentence and ask, **What number do we take away from 10 to make 5? What is the missing number? How do you know?** Have the students complete both number sentences. Allow time for them to work independently to complete the sheet.

7. Using the teaching tool to solve missing-addend problems

Resources

- *Teaching Tool*

Activity

Ensure that all the students can see the *Teaching Tool*. Show a missing-addend problem in the work area. For example, use the writing tool to write ***15*** (the total number of carrots) on the sign and then drag 12 carrots into Joe's garden. Ask, **What was the total number of carrots? How many carrots are left? How many carrots are missing? How do you know?** Write the addition fact ***12 + 3 = 15*** in the white panel at the base of the screen. Then reinforce the think-addition strategy by writing the matching subtraction fact ***15 – 3 = 12***. Repeat with new numbers being removed from a starting total of 15 or less.

8. Solving missing-addend problems

Resources

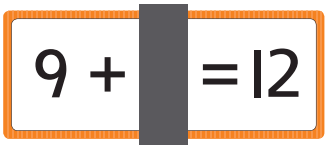
- *The Box of Facts: Addition/Subtraction*
- Connecting cubes

Preparation

Select the missing-addend subtraction cards from *The Box of Facts: Add/Subtract*. Each group of students will need 18 connecting cubes.

Activity

Say, **I am going to show you an addition fact with a missing number. I want you to figure out the missing number, then copy and complete the addition fact. You can use the cubes to help.** Show the subtraction card with the sleeve covering the second addend as shown in the example below. When the students have written the addition fact, reinforce the think-addition strategy by directing them to write the two matching subtraction facts.



9. Figuring out the missing addend

Resources

- 15 plastic cups

Activity

Place the cups in a row on a table at the front of the classroom. Ask, **How many cups are there in total?** Have the students close their eyes. Remove a number of the cups. Say, **Open your eyes and look at the cups. How many cups have been taken away? How do you know?** Repeat several times with different numbers of cups being removed.

Number Mats

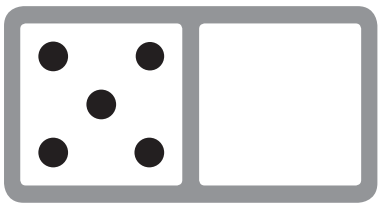
Support I

Domino Addition Sentences

Support 2

Draw more dots to show the total.
Complete the facts.

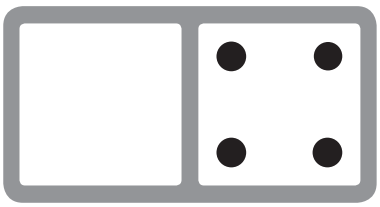
a.



5 + ____ = 10

10 – ____ = 5

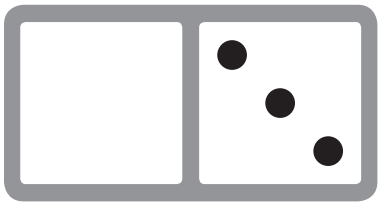
b.



____ + 4 = 12

12 – ____ = 4

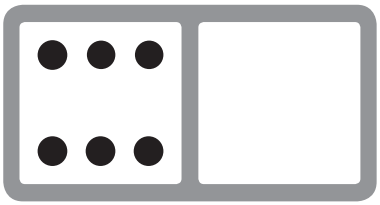
c.



____ + 3 = 10

10 – ____ = 3

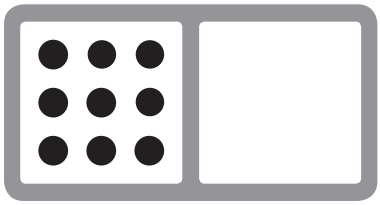
d.



6 + ____ = 11

11 – ____ = 6

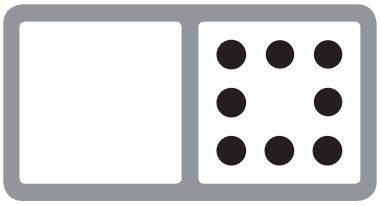
e.



9 + ____ = 11

11 – ____ = 9

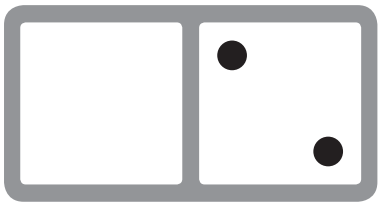
f.



____ + 8 = 10

10 – ____ = 8

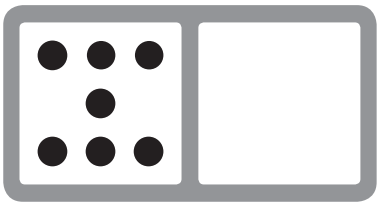
g.



____ + 2 = 7

7 – ____ = 2

h.



7 + ____ = 12

12 – ____ = 7