

Core Focus

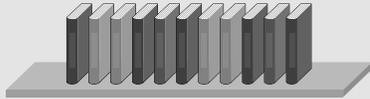
- Subtraction: reviewing concepts and strategies, and writing fact families
- Length: working with inches, feet, and yards

Subtraction

- Students review subtraction concepts such as the count-back and think-addition strategies.

4.2 Subtraction: Reviewing the count-back strategy

Step In There are 11 books on a shelf.



If Terri takes three books off the shelf, how many will be left?

In this lesson, students review the count-back strategy.

- Students know about *fact families*. This term describes how every addition and subtraction fact has three related facts. For example, $5 + 6 = 11$, $6 + 5 = 11$, $11 - 5 = 6$, and $11 - 6 = 5$ are all part of the same fact family.
- Understanding fact families helps students see that there are two ways to mentally solve any subtraction problem.
- In this module, students use their fact family knowledge to write an addition or a subtraction story to match a picture.

4.5 Subtraction: Writing fact families (count-on facts)

Step In Rita wrote two stories to match this picture.



| Addition story | Subtraction story |
|---|--|
| Five birds are on the fence and two are in the air. There are seven in total. | Seven birds were on the fence. Two flew away so five are left. |

In each story the total is 7 and the parts are 5 and 2.
What addition and subtraction facts can you write with all three numbers?

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In this lesson, students write fact families to match stories.

Ideas for Home

- Talk about everyday situations that involve comparison. E.g. when your child notices that a sibling has more crackers than they do, ask how many more crackers the sibling has. Listen for how your child solves the problem — by either counting on or counting back.
- Tell subtraction stories. E.g. “Earlier, there were nine cars in the parking lot. Now there are only six. How many cars have left? How do you know?” One way your child might solve this is to think of six and how many more make nine.

Helpful video

View these short one-minute videos to see these ideas in action.

www.bit.ly/OI_27

Length

- Students have previously used non-standard tools, such as paper clips, to compare lengths of objects. In Grade 2, they transition to using tools that are one inch long. This leads to using a ruler to find the length of objects.
- Students estimate and measure the length of classroom objects. They also decide which unit of measure is most appropriate, feet or inches.

4.7 Length: Introducing inches

Step In What do you know about one inch?

My dad said his shoe is about 10 inches long.

The store sells 6-inch subs.

What are some things that you think are about one inch long, one inch wide, or one inch thick?

Some books are about one inch thick.

This pattern block is one inch long and one inch wide.

Use a pattern block to find some things in the classroom that measure one inch.

- Students are introduced to the use of *foot* as a unit of length, and learn that 12 inches is the same as the standard foot.
- Lengths longer than 12 inches are expressed in terms of feet and inches. Students measure different classroom items and share their findings by reporting, *the table is about two and half feet long, or, the chair is 17 inches across, or 1 foot 5 inches.*

4.10 Length: Working with feet and inches

Step In How many inches equal one foot?

How many inches equal two feet? How do you know?

How many inches taller than one foot is this plant?

How many more inches would the plant need to grow so it was two feet tall?

I could say that the plant is 1 foot and 3 inches high.

15 inches

In this lesson, students convert lengths that are greater than 12 inches to feet and inches, and vice versa.

- The standard unit, the *yard*, is introduced and students estimate and measure lengths using a tape measure or yard ruler. They learn that one yard is the same length as 3 feet.

Ideas for Home

- Compare the height of the people in your family. Talk about measuring height using feet and inches and describing height in two ways. E.g. *62 inches* is the same as *five feet, two inches*.
- Ask your child to estimate the length of everyday items. E.g. ask, “About how many inches long is the fork?” “About how many feet across is your bed?” Remember to follow up with, “How do you know?”
- Ask your child what unit would be best for measuring different items in your home or neighborhood. E.g. inches might be best to measure the length of a crayon, feet might be best to measure the length of a table, and yards might be best for measuring the distance from home to the bus stop. Ask your child to explain their thinking.