



Core Focus

- Developing and using subtraction language and the subtraction symbol (-)
- Solving word problems and writing number sentences involving addition or subtraction
- Measuring capacity and weight with nonstandard units

Addition and Subtraction

- In Kindergarten, stories were used to practice concepts of addition and subtraction. Developing the language of addition and subtraction through stories continues in Grade 1.
- Language for subtraction demonstrates the action of “taking away”: **run away**, **fly away**, **eat**, **take** and **spend**. Students connect this language to numbers sentences that describe the story.

4.3 Working with the Subtraction Symbol (-)

Look at this subtraction sentence.

$$7 - 2 = 5$$

Read these stories.

7 birds in all. 2 fly away. 5 are left.

7 cakes **take away** 2 is 5.

There were 7 hens. 2 **run away**. There are 5 left.

How does each story match the subtraction sentence?
 What is another story that matches the subtraction sentence?
 What does “-” mean?
 What does each number in the sentence show?

In this lesson, students connect stories to subtraction sentences.

- Students explore subtraction through acting out stories that “take away” part of a total. The answer is the other part of the total, i.e. what is left.
- Since the “answer” is the other part of the total, it is possible to write two subtraction sentences for each situation. These are called **related subtraction sentences**. So the number sentence $9 - 4 = \underline{\quad}$ has the related sentence $9 - 5 = \underline{\quad}$.

4.4 Writing Related Subtraction Sentences

Look at this picture. What do you see?

How does each subtraction sentence match the picture?

What do the numbers in each sentence show?

What stays the same in each sentence?

What changes?

$$6 - 1 = 5$$

$$6 - 5 = 1$$

In this lesson, students learn that most subtraction situations suggest two related number sentences.

Ideas for Home

- When playing games, eating snacks, shopping, or gardening, for example:
 - show amounts in two parts and ask, “How many in all?”
 - show a total and a part taken away, and ask, “How many are left?”
 - show a total and a part, and ask, “Of the 10 flowers, 5 are yellow, so how many are pink?”
- Ask your child which number sentences could represent their thinking and why.
- Encourage your child to ask you questions by making up stories about situations that involve addition or subtraction.

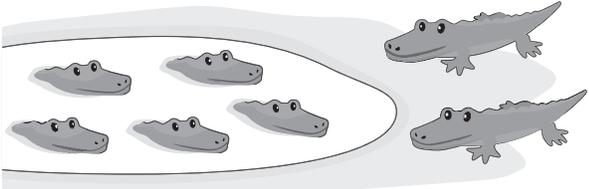
Glossary

- ▶ Addition sentences show **part + part = total**, or **total = part + part**
- ▶ Subtraction sentences show **total - part = part**
- ▶ **Related subtraction sentences** are the two possible subtraction sentences for any situation. E.g. $9 - 4 = 5$ has the **related sentence** $9 - 5 = 4$.

- Students need plenty of opportunities to tell the difference between addition and subtraction. Telling stories and using the words like “total” and “part” to explain how they solved the problem builds this understanding.

4.5 Solving Word Problems Involving Addition and Subtraction

What story could you tell to match this picture?



Does your story use addition or subtraction?
What number sentences can you write to match your story?

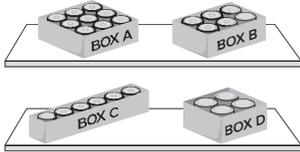
In this lesson, students tell stories using both addition and subtraction. This could show $7 - 2 = \underline{\quad}$, or $5 + 2 = \underline{\quad}$, or $5 + \underline{\quad} = 7$, depending on the story.

Measurement

- Language associated with capacity and weight is explored in this module. Expressions such as full, empty, half-full, and nearly full, describe capacity, or the amount a container can hold. For weight, the language includes heavy, heavier, and light.

4.9 Working with Capacity

Describe the capacity of each box.



Capacity is the amount that something can hold.



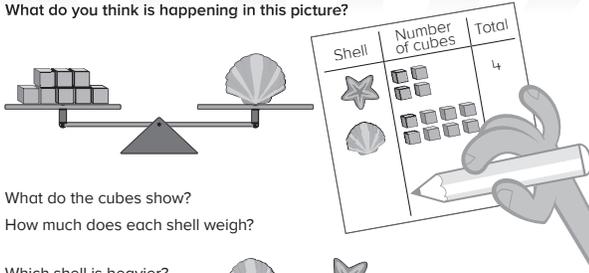
Which box has the greatest capacity?
What do you notice about Boxes B and C?

In this lesson, students pack boxes with cubes and then compare and order capacities.

- Counting non-standard units (e.g. number of same-size cubes or equal-size scoops of water) is foundational to exploring capacity and comparing weight.

4.12 Using Non-Standard Units to Compare Weight

What do you think is happening in this picture?



Shell	Number of cubes	Total
		4

What do the cubes show?
How much does each shell weigh?

Which shell is heavier?
How do you know?

or

In this lesson, students count and record the number of uniform non-standard units (cubes) to compare the weights of objects.

Ideas for Home

- Explore capacity by asking, “Which container seems the right size for these leftovers?” or “Which glass will hold more milk — the tall, skinny one, or the short, fat one?”
- Use marbles, beans, or water to measure the capacity of different-sized containers.
- Ask questions such as, “Can a hairbrush fit into your schoolbag?” and “Can a garden shovel fit in the cupboard?”
- To explore weight, create a coat hanger balance scale. 
- “Weigh” objects by placing them in the plastic bags. Ask, “How many pennies does it take to balance the weight of a pencil?”

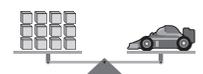
Glossary

- ▶ **Capacity** is the amount something can hold.



E.g. Box A has a greater **capacity** than Box B because it can hold 9, which is greater than 6.

- ▶ **Non-standard units** are objects of the same size that are used to measure the weight, length or capacity of an object.



E.g. The car weighs the same as 12 cubes. Cubes are a **non-standard** measure.