




Topic: Using units of measurement

Comparing the capacity of containers

Lesson concepts

-  Capacity — Language (describing, comparing, ordering)
-  Capacity — Direct comparison
-  Capacity — Indirect comparison

Today students will:

- compare the capacities of containers.

Resources

Find and prepare

Ice-cream cones of different shapes and sizes (or make some from cardboard)

Materials suitable for pouring, scooping and filling (for example: sand, rice, corn, popcorn, seeds, pasta)

Cardboard of different sizes

Adhesive tape or stapler (when making ice-cream cones)

Stacking (nesting) toys, saucepans, measuring cups

Key terms

capacity

For definitions and explanations of terms, please see the [Glossary](#).

Lesson

Note

It is important to highlight and develop the following vocabulary throughout this lesson: space, full, empty, fill, holds more, holds less, same, compare, order.

Introduce the lesson: Identify contexts for measuring capacity

- Discuss with students different situations where objects or containers are filled with something and when it may be important to know how much an object or container holds.
- List students' suggestions, for example:
 - pouring drinks at a party
 - washing up
 - bathing the dog
 - filling a pool
 - filling a sand pit
 - packing a school bag
 - filling an ice-cream cone.

Focus questions

Q: Why would it be important to know how much the container would hold?

Q: What might happen if too much liquid is poured into a container?

Q: When have you seen that happen?

- Have students:
 - select one of the situations above
 - consider what might happen if the containers were not filled properly
 - represent the situation, for example: draw, act out or tell the story
 - share and discuss the situation.
- Provide students with many opportunities to explore capacity using sand and/or water to fill a variety of containers.

Focus questions

Q: Which container holds more?

Q: How could you check if you are correct? (For example: Pouring directly from one container to the other.)

Q: Which container holds less?

Q: How many scoops of sand does it take to fill this container?

Explore the capacity of a container

- Display an ice-cream cone and discuss the shape and size of the space within it.

Focus questions

- Q: *What can you say about the space inside the cone?*
- Q: *Why do you think the cone is this shape?*
- Q: *Does the space within it ever change?*
- Q: *Would every cone have the same space inside it?*
- Q: *How could you find out?*



- Allow students to explore the space inside their own cones. Guide students to:
 - make their own cones out of cardboard or paper
 - directly compare the capacity of the cones (for example: by placing cones inside each other or filling a cone with rice and pouring the rice into a different cone)
 - explore the capacity of their cones using mediums for pouring, scooping and filling (for example: sand, rice, corn, popcorn, seeds, pasta).

Focus questions

- Q: *Which cone holds more/less? How do you know?*
- Q: *How many spoons of rice did it take to fill your cone?*
- Q: *How many scoops of corn did it take to fill your container?*

- Discuss students' experience with nesting objects (for example: Matryoshka dolls, toys for younger children and Chinese nesting boxes).
- Provide materials and objects for students to use to practise ordering similar shaped objects according to their capacity (for example: saucepans, measuring cups).



Focus questions

Q: *Why do these containers fit inside each other?*

Q: *What might happen if they were different shapes/the same size?*

Q: *What can you say about the space within these objects and why they stack so well?*

A: For example: The spaces are the same shape. They stack because the space within the containers is getting bigger.

Q: *What objects do you have at home that fit inside each other?*