MATHS

Lesson 3

Prep

Topic: Using units of measurement

Comparing distances

Lesson concepts

- **Length** — Language
- **Length** — Direct comparison
- **Length** — Indirect comparison

Today students will:

- identify distance to locate objects
- identify the width of objects by referring to their thickness and length
- identify the depth of liquid.

Resources

Find and prepare

Range of non-breakable objects to throw
(for example: beanbags, balls, soft toys)

Two ropes or strings or belts

Containers filled with water for comparison of depth

Images of bridges

Construction materials for building bridges
(for example: boxes, blocks, straws, cardboard)

Key terms

For definitions and explanations of terms, please see the Glossary.

Lesson

Introduce the lesson

Note

The following language is important to highlight and develop throughout this lesson:

length, distance, how far, closer, longer, shorter, short, long, same, compare, wide, wider, widest, width, narrow, narrower, narrowest, low, lower, lowest, near, nearer, nearest, far, further, furthest, apart, close, thick, thicker, thickest, thin, thinner, thinnest, deep, deeper, deepest, shallow, shallower, shallowest, tall, taller, tallest

Describe distances

Which object can you throw further?

Note

The first activity in this lesson requires students to throw objects to compare the distance thrown. Ensure that students have an appropriately safe place in which to work (such as an outdoor area).

Provide students with a range of non-breakable objects to throw (for example: beanbags, balls or soft toys of different sizes), and rope or string to measure the distance thrown.

Explain that students will throw each object as far as they can in the same direction and compare the distance each object is thrown.

Ask students to:

- throw each object
- leave each object where it lands (if balls are used, mark where they land with pegs or sticks)
- compare the distances thrown.

Focus questions

Q: *Which throw was furthest?*
A: Personal response required.

Q: *Which throw was closer?*
A: Personal response required.

Q: *What objects are thrown in sports?*
A: For example: ball, discus, shotput.

Note

This activity could be extended by kicking rather than throwing the objects.

Explore width

Jump the river

Place two ropes/strings/belts parallel and close together.

Explain to students that the ropes/strings/belts are the banks of a river and the space in the middle is a river that they will jump across.

Ask students to jump across the 'river'.

Focus questions

Q: *Was the jump easy or hard?*
A: Easy.

Q: *What could you do to make the jump more difficult?*
A: For example: Move the banks (ropes) further apart.

Q: *What words could we use to describe the width of the river (distance between the ropes)?*
A: For example: wide, narrow, wider, narrower, apart, close, longer distance, shorter distance.

Move the ropes further apart after each jump until the students begin to have difficulty jumping across the river.

Focus questions

Q: *Why is it getting harder to cross the river?*
A: For example: The ropes are being moved further apart.

Q: *How is the river changing?*
A: It is getting wider.

Q: *Are the banks getting closer or further apart?*
A: Further apart.

Q: *How wide was it when you started jumping?*
A: For example: not very wide/narrow.

Explore depth of liquid

Describe and compare the depth of water

Ask students to fill containers with water to different depths.

Discuss students' understanding of comparing depth.

Focus questions

Q: *Which container has the shallowest water?*
A: Personal response required.

Q: *Which container has the deepest water?*
A: Personal response required.

Describe objects using the language of length and width

Building bridges

Display images of bridges.

Discuss students' understanding of bridges and their features.

Focus questions

Q: *What are bridges used for?*
A: For example: To get from one side (of a river) to another.

Q: *What are bridges made of?*
A: For example: timber, concrete, rope, steel.

Q: *Why would a bridge need to be wide/short/narrow?*
A: Personal response required.

This bridge is made out of rope and timber. It is narrow because the gap is small. It would probably be used by animals and people.

Play a game such as ‘London Bridge is falling down’.

Help students to collect materials suitable for constructing bridges (such as boxes, blocks straws and cardboard).

Ask students to construct bridges that are long and narrow or short and wide.

Focus questions

Q: *How could you use this bridge?*
A: For example: For my truck to go across the river.

Q: *How can you change the bridge to make it wider/shorter/narrower/longer?*
A: For example: Add more timber to each side to make it wider.

Q: *How would you describe this bridge?*
A: For example: long and narrow/short and wide/short and narrow/long and wide.