

Lesson 1 Testing sails

Resources and preparation

- Each child or group will need a copy of page 29, four straws, scissors, sticky tape, a lump of plasticine about two centimetres across, four model hulls (see below), a large tray of water, a balloon inflator or large plastic syringe to blow gently on the sails.

Make the model hull in the following way. Take a clean plastic bottle (about 7.5cm long - a yogurt drink bottle is ideal), and cut it in two lengthways. This makes two hulls. Fold a 4cm-square piece of kitchen foil over the half neck of the bottle and fold it up to make the bow of the ship (see the illustration on page 29).

This lesson can be adapted as part of your Pirate Day.

What to do

- Ask the children how they think the size of the sails may affect the movement of a ship. Explain that the larger the sail, the faster and further the ship will travel. Tell the children that they are going to test this idea with an experiment.
- Give out copies of page 29 and go through the stages of making the ship. Point out that one ship has no sail, just a mast.

- Let the children take their time to assemble four ships.
- Ask the children to launch each ship at the edge of the shallow tray and use a balloon inflator or large plastic syringe to blow gently on the sails.
- Tell the children to make several attempts at sailing each ship, then write a simple report in the spaces on the sheet (or on the back of the sheet if their handwriting is large).
- Encourage the children to discuss their reports and present their conclusions.

Extension

Explain to the children that when pirates attacked a ship they did not want to sink it, because that would take the treasure to the bottom of the sea. Ask the children how pirates might have stopped or slowed a target ship. Take a ship with a large sail and say that you are a pirate attacking it. Cut some pieces of sail away as shown at the bottom of page 30, bend the mast a little to show that it has also been damaged. Let two children explore how the damaged ship sails compared with an undamaged ship.

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Objectives

- To assemble simple model ships.
- To make observations and record them.
- To draw conclusions.

Subject references

Science

- Recognise when a test or comparison is unfair. (NC: KSI ScI 2d)
- Communicate what happened in writing. (NC: KSI ScI 2g)
- Make simple comparisons and identify simple patterns or associations. (NC: KSI ScI 2h)

Design and technology

- Assemble, join and combine materials. (NC: KSI 2d)



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