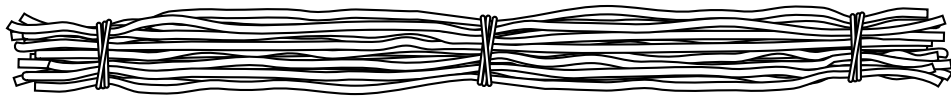


## Make a model raft

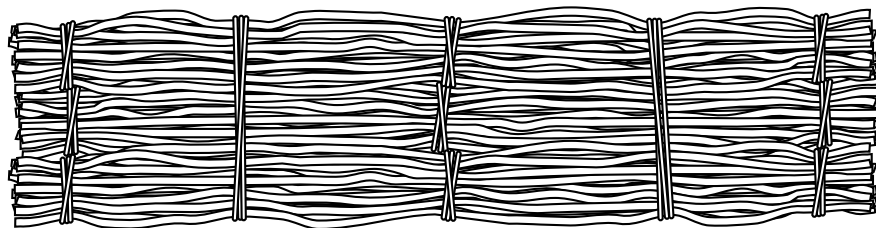
1. Pull out a handful of grass from the bag and straighten it into a bundle about 30 cm long.
2. Measure in five centimetres from one end of the bundle and tie the grass tightly together with string.
3. Measure in five centimetres from the other end and tie the grass tightly together with string.
4. Find the mid-point between the two pieces of string and tie the grass tightly together there.
5. Cut about three centimetres off the ends of each bundle to make it tidy. It should look as diagram 1 shows.

**Diagram 1**



6. Repeat steps 1 to 5 twice more so that three bundles are made.
7. Put the three bundles side by side and tie them together tightly as diagram 2 shows.

**Diagram 2**



8. Place the raft in a bowl or sink of water.
9. Predict how many small weights the raft could carry without sinking and carefully add the weights one at a time.
10. Compare your prediction with the result. How accurate was your prediction?



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# Make a model raft

## Age range

- Years 3/4 (SP4/5).
- Years 5/6 (SP6/7).

## Resources

Copies of the worksheet. A bag of pet bedding, which is made from dust free, medicated grass (check that your school policies will allow you to use this material), string, scissors, bowl or sink of water. Small weights such as blocks of Plasticine or marbles.

## Using the worksheet

Tell the students that some of the very first boats to be used on the Nile were made from a reed called papyrus which grows along the river banks. Reeds are a kind of grass and the students are going to see if they can make a model of a simple papyrus raft using grass. You may like to add that when archaeologists find out about the objects that people in the past used, they recreate the objects to see what they would have been like.

You may like to demonstrate the pulling out of the grass and making bundles (they should be about 3–4 cm thick when not tied together and just over 30 cm long). The knot to use is the simple knot that students use to tie their shoes but it should be done twice to hold the string firmly in place. You may like to cut pieces of string about 10 cm long for the students before the activity. The ends of the string can be trimmed after the knots have been tied.

## Younger students

You may like to have a team of teacher helpers to assist you. The students may need help in pulling out the grass and in tying the string. Some students may need supervision when using small objects like marbles and Plasticine so that the objects do not become projectiles!

## Outcomes

The students:

- Can follow instructions to make a model.
- Can use materials and simple equipment safely.
- Realise that a material such as grass can be used to make a raft.
- Can make a simple prediction, test it and assess its accuracy.

## Older students

The students can work in pairs.

## Outcomes

The students:

- Can follow instructions to make a model.
- Can use materials and simple equipment safely.
- Realise that a material such as grass can be used to make a raft.
- Can make a simple prediction, test it and assess its accuracy.