

➤ Notes for parents. Activity next page.

The purpose of this task is to have your child:

- to learn more about weight and area

Think about this:

- They need kitchen scales to check the weight (mass) of the marbles.
- As they make their boats, encourage them to think about whether the size of the boat (the area of the bottom of the boat) affects the weight (mass) it can hold.
- Does the size of the marbles make a difference?
- Does the arrangement of the marbles in the boat make a difference?
- Have them experiment with different sized boats and see if there is a pattern in the results. They'll need to record their results.
- They'll probably want to talk about this with someone in your family (rather than with a classmate).



Solve It or Sink It

You need A4 paper paste or tape marbles
 a water tray scales a classmate

Activity

Use different-sized rectangles of paper to make some paper boats.

You may have your own design for making paper boats, but here is one way to make them:



1. Fold a piece of A4 paper in half lengthwise.



2. Fold back the top edges of the piece of paper.



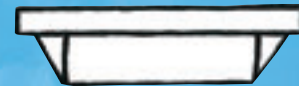
3. Unfold the top edge of one side so that you are left with a crease line.



4. Fold the bottom right-hand corner and bring it up to just under the crease line.



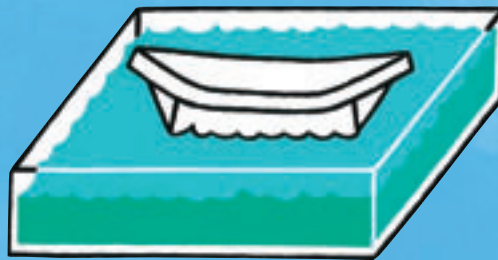
5. Do the same to the left-hand corner.



6. Fold the top edge of the piece of paper back down along the crease.



7. Open your boat and smooth out the bottom crease to make a base.



8. Now, put your boat in a tray of water to see how it floats.



1. How many marbles can your boat hold before it sinks?
2. What is the mass of these marbles?
3. Cut another piece of A4 paper in half crosswise. Follow the instructions above to make another boat. This boat will be half the size of your first boat.
 - a. How many marbles can your new boat hold before it sinks?
 - b. Compare this with the number of marbles used to sink the larger boat.
 - c. Discuss your results with a classmate.