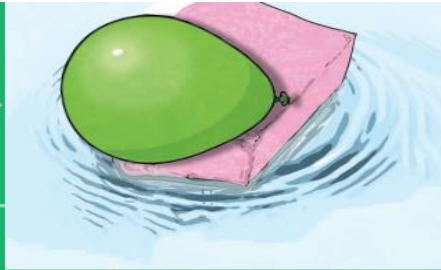


DESIGN TECHNOLOGY CHALLENGE

Balloon - Powered

Sponge Boat



You will need:

- balloon
- pencil
- large kitchen sponge
- craft knife (adult supervision required)
- small piece of plastic tubing
- protractor
- ruler
- paddling pool, bathtub or a large, wide container partly filled with water
- scissors

Build a boat that can be powered by inflating a balloon and then letting it deflate. The air that escapes from the balloon will propel the boat along the surface of the water.

Before you begin, make sure your surfaces are protected with old newspaper or a plastic mat. You might want to tie long hair back and wear an old shirt or apron.

Instructions:



1. Use a ruler to find the middle of the shortest edge of the sponge. Draw a mark with a pencil.

2. Place the protractor on this point, with the 0° line along the shortest edge of the sponge. Measure a 45° angle on one side and make a mark. Do the same on the other side.

3. Join both these points to the midpoint of the short edge (the first mark you made). This should give you an arrow shape at the end of the boat.

4. Adult job: With a craft knife, carefully cut off the corner sponge sections no longer needed. You should be left with a point at one end of your sponge boat that is a 90° angle (right angle).

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5. Find the middle of the boat by using your ruler and marking it with pencil.

6. Adult job: Cut a short vertical slit in this middle point with a craft knife.

7. To get the balloon nice and stretchy, pull it carefully with your fingers, blow it up once and let the air out again.

8. Push the end of the balloon through the slit in the middle of the sponge.

9. Stretch this end over the piece of plastic tube.

Your boat is now ready to try out! To test your boat, blow up the balloon through the plastic tube. When you release your boat into the water, make sure to position the plastic tube towards the rear of the boat. Because the end of the balloon is being squeezed by the sponge, it shouldn't release the air too quickly. Watch your boat move along, powered by its balloon motor.



We would love to see your creations – please send photographs to aen@birchington.kent.sch.uk