

TEST YOUR LUNG POWER

Help your section discover their lung volume with this easy experiment

SUITABLE FOR CUBS, SCOUTS, EXPLORERS, NETWORK

1 There are some preparations you need to do in advance of this activity. Make sure the plastic tubing and all of the other household items are clean and sterilised before they are used for this experiment.

2 Prepare the area you are going to be using for the experiment. You might want to cover the surface and/or floor with newspapers or towels in case of spillages.

3 Fill the kitchen sink with around 10cm of water and fill the plastic bottle with water, making sure it's filled right to the top.

4 Next, you're going to turn the bottle upside down, so you'll need to keep your hand over the top of the bottle to stop water escaping.

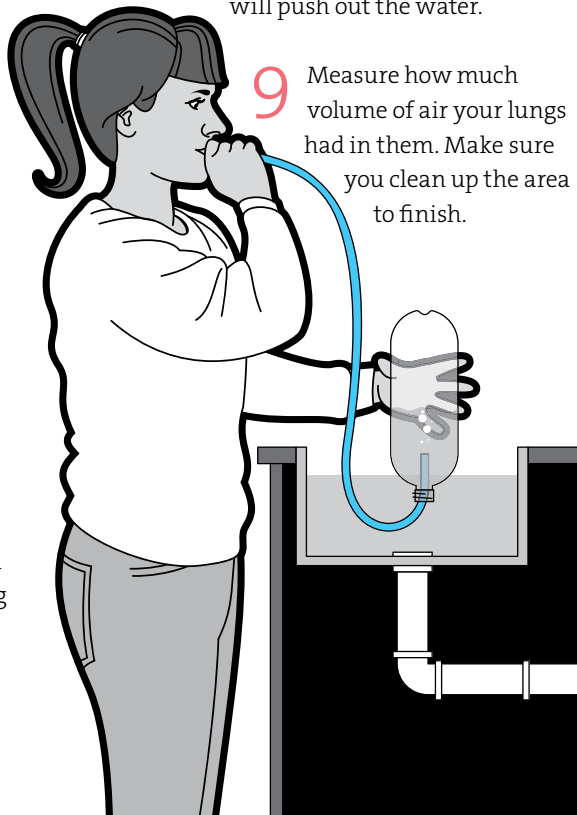
5 You've turned the bottle upside down and your hand is over the top of it, then place the top of the bottle underneath the water in the sink before removing your hand.

6 Holding the bottle with one hand and the plastic tube with the other, push one end of the tube into the bottle, which is still submerged.

7 Take a big deep breath in and put the end of the plastic tube in your mouth then breathe out as much air as you can through the tube, using your diaphragm to maximise your lung power.

8 As you breathe out down the tube, the air coming out of the end of the tube that's in the bottle will push out the water.

9 Measure how much volume of air your lungs had in them. Make sure you clean up the area to finish.



TIME NEEDED

20 minutes

EQUIPMENT NEEDED

- Clean plastic tubing
- A large plastic bottle
- Water
- Kitchen sink or large water basin

THIS ACTIVITY LINKS WITH THE FOLLOWING BADGES



Cubs Astronomer Activity Badge



Cubs Scientist Activity Badge

OUTCOMES

Breathing out through the tube into the water means that air from your lungs takes the place of the water in the bottle. The volume of water you pushed out is equivalent to how much air your lungs can hold, so this task tests your lung capacity.

Explain to the young people conducting the experiment that their lungs are the functional units of their respiratory system, passing oxygen into the body and carbon dioxide, a waste product that can be lethal if allowed to accumulate, out of the body.

OTHER ACTIVITIES

To get an accurate reading of your lung capacity, stick a strip of masking tape to the side of the bottle and mark it at regular intervals. To calculate lung capacity, multiply the number of marks by 250 and divide by 1,000.

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