

Science

Experiments

Breathing and Exercise

This week I would like you to complete some Science work. I have found two experiments from our 'Switched On Science' unit and have tried to keep them as simple as possible so that it is possible to do them at home. You may need to substitute some of the equipment needed but use whatever you have available and remember that experimenting is all about testing and finding ways of improving tests. So even if they don't work properly, at least you are having a go and you can always keep trying to improve by swapping materials and changing the variables.

Your task is to choose one or both of the experiments and to write it up as we usually would in our Science books. Remember to use the appropriate headings and to make it neat. Make sure that you write the aim and method before completing the experiment and, once finished, put your results in a table and write any conclusions that you come up with.

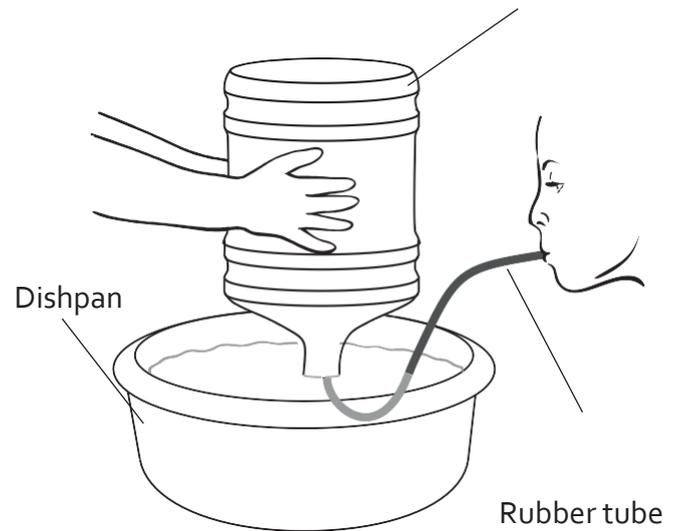
I have included some information on the experiments below.



Out of puff

Gallon jug

- Clean the end of the tube with disinfectant wipes.
- Fill the bottle with water.
- Hold it upside down in the bucket of water.
- Put the plastic tube inside the bottle, keeping hold of the other end.
- Take a very deep breath, put the tube in your mouth and blow as hard as you can until your lungs feel totally empty.
- Mark the side of the bottle where the water level now is.



	You	Your partner
Lung Capacity /cm ³		

Challenge

Can you find a way to accurately measure the amount of air that was breathed into the jug?

Race against time

To measure breathing rate:

- Place your hand on your chest.
- Have your partner start the stopwatch and time for 30 seconds.
- Count how many times you breathe out.
- When 30 seconds is up, your partner tells you to stop.
- Double the number of breaths you have taken to give the number of breaths in a minute.

	You	Your partner
Breathing rate at rest		
Breathing rate immediately after 2 mins of exercise		
Breathing rate after 2 mins of rest		

Challenge

Consider these questions and include the answers in your conclusion.

What happened to your breathing rate immediately after exercise?

Why did this happen?

What happened to your breathing rate 2 minutes after exercise?

Why has this happened?