

Activities to keep your child engaged and learning during the school closure.

As well the school work we are sending out for your child to complete at home, we will also be providing parents and carers with regular updated on ideas and resources to keep your child engaged during the school closure.

Science investigations to complete at home

This 'Home Learning Supplement' includes 12 science experiments that you can complete with your child at home.

Students love exploring the fascinating aspects of science at school, especially when they get to undertake practical experiments. The following experiments can be completed at home with everyday household items and ingredients to keep their scientific minds busy during the school closure.

The instructions have been written so they can be easily followed at home.



*****All of these investigations should be carried out with adult supervision*****

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Insect comparisons

Equipment you need:

- A clear Tupperware tub
- Gentle hands!

Instructions:

In your garden look under rocks and when you find any insect carefully lift it into your container taking care to treat the insect with care. Place the lid onto your tub and look carefully at the underside and through the sides to observe the insect. Carefully put the insect back where you found it.

What did I see / why did I see it?

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Kitchen chemistry

Adult note: you can spend ages looking at the neutralisation that is happening, if you have any indigestion tablets see how much vinegar it takes to change the colour of the cabbage water.

Equipment you need:

- A red cabbage
- Saucepan
- Hot water
- A sharp knife
- A selection of vessels that can hold liquid (cups etc.)
- Bicarbonate of soda
- Vinegar
- Lemon juice
- Dish
- Soap
- Water

Instructions:

Stage one: making your indicator.

Chop a quarter of your red cabbage so that it is thin strips and place it in a saucepan with hot water. Heat it until the liquid is a dark purple and drain the liquid, **KEEP THE LIQUID**. Leave the cabbage juice to cool.

Stage two: in one of your cups (or other vessels) place a teaspoon of bicarb and add some water, stir and put to one side. Repeat this process, with the same amount of water, for each of your substances (you can also use any other household substances that your adult is happy for you to use).

Stage three: carefully put 1 tablespoon of your cabbage water into each cup, what happens?

Stage four: *Optional*: into a new cup pour some of the vinegar water with cabbage juice, then slowly add some of the bicarb water with cabbage juice in, to see what happens.

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Straw bridges

Adult note: if you're struggling to get started you can always google search images and there's loads of inspiration.

Equipment you need:

Straws (or spaghetti)

Scissors

Elastic bands

Instructions:

Using your straws try to tie the elastic bands so that you can create a freestanding bridge. If the bridge is too easy, try to make a structure that can take the weight of a can of beans (or similar).

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Invisible Ink

Adult note: the lamp needs to be hot to reveal the message, so a not energy saving bulb! The paper does have to be quite close or it won't work so well.

Equipment you need:

- Lemon
- A lamp
- A cup
- A paintbrush
- A lemon juicer (or muscles to squeeze one!)
- Paper

Instructions:

Juice a lemon and pour the juice into a cup. With your paintbrush write a secret message on your paper. Leave your paper to dry. To reveal the message, place your paper close under a hot lamp.

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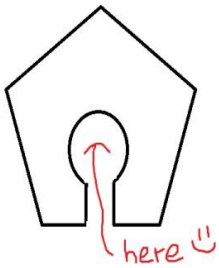
Moving boats

Equipment you need:

- A washing up bowl with water (or similar)
- Washing up liquid
- Card (or thick paper)
- Scissors
- Pen

Instructions:

On your card draw this shape.



Cut your shape out and place into your bowl of water. Drop a drop of washing up liquid into the gap labelled 'here' on the picture. You can repeat this with different shapes so long as there is this part for the drop of washing up liquid.



You must change the water in the bowl between each time and give the bowl a rinse.

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Scared pepper

Equipment you need

- Pepper
- Washing up liquid
- A bowl
- Water
- Your finger

Instructions:

Fill the bowl with water; add some pepper to the bowl. Dip your finger into the bowl without stirring it. Remove your finger and dry it. Next put a small amount of washing up liquid on your finger and dip it in the water again.

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Ice cube lift ups

Equipment you need:

Ice cubes
String
Salt
Bowl of water

Instructions:

Place your ice cube in your bowl of water. Put your string on top of the ice cube for 10 seconds and lift the string out of the bowl. Now place your string on top of the ice cube again and sprinkle a pinch of salt onto the ice cube and string. Wait 15 seconds and gently lift your string out of the water. If necessary, repeat but wait for 30seconds.

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Floaty food

Equipment you need:

- Lemonade or carbonated water
- A clear cup or glass
- Raisins
- Peanuts
- Pasta shells (or shapes)
- Timer

Instructions:

Pour half of a cup with your fizzy liquid. Stir your fizzy liquid for 30seconds to remove most of the fizz. Drop your food substance into the liquid and record how long it takes for the food to come to the surface. Remove the food and repeat with your next food substance.

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Diver in a bottle

Equipment you need:

- A 2L bottle
- A straw
- Plasticine or bluetack
- Water
- Scissors

Instructions:

Half fill your bottle with water. Cut your straw to around 6cm and put a blob of plasticine (or blue tack) on either end of your straw. Drop this into your bottle and fill the rest of your bottle making sure you fill it all the way to the top.

Screw the lid on so there is no air gap. Gentle squeeze your bottle and see what happens to your straw. Now squeeze it a little harder and at different places up and down the bottle.

What did I see / why did I see it?

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Cola clean up

Adult note: you could also try this with lemon juice.

Equipment you need:

Cola

Pennies

2 cups

Water

Instructions:

Place a couple of pennies in each cup. Pour 5cm³ of cola into the first cup over the pennies, repeat with water in the second cup. Leave overnight, empty the cups and rinse and compare the differences.

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Floating ping pong balls

Equipment you need:

- A hair dryer
- A ping pong ball

Instructions:

Turn on the hair dryer and hold it so that it is facing upwards but away from your face. Hold the ping pong ball in your other hand and hold it over the stream of hot air. Try to place it so that the ball stays hovering in place.



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Balloon kebabs

Equipment you need:

- Balloons
- Skewers
- Oil
- Air

Instructions:

Blow up a balloon so it is mostly inflated. Rub a small amount of oil onto the place you plan to poke the balloon. Carefully and slowly pierce the balloon with the skewer pointy end where you put the oil. Repeat in different places.

What did I see / why did I see it?
