

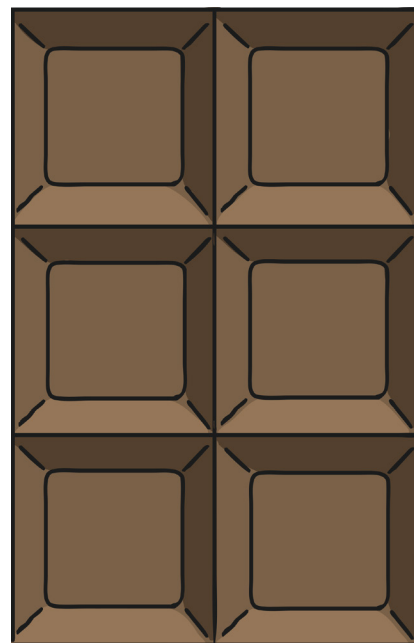
Chocolate Rocks

Science Experiment

There are different types of rock. One kind, called sedimentary rock, has been pushed down by heat and pressure underground.

You will need:

- a bar of milk chocolate and a bar of white chocolate
- a cheese grater
- two plates
- a bowl
- cling film
- knife



Method:

1. Place the grater on a plate and carefully grate the milk chocolate. Be careful using the grater, and ask a grown up for help if you need it.
2. Do the same for the white chocolate on a separate plate.
3. Lay the cling film in the bowl, leaving the ends of the cling film hanging on the outside of the bowl.
4. Put in a layer of milk chocolate, then one of white chocolate.
5. Keep doing this until all the chocolate is used up.
6. Pull the corners of the cling film up and wrap it up.
7. Roll the cling film around in your hands for about five minutes.
8. Leave the chocolate to cool down.

Chocolate Rocks Science Experiment

9. Unwrap the chocolate.
10. Using a knife, carefully cut through the chocolate. You will see layers of chocolate just like rocks.

The science:

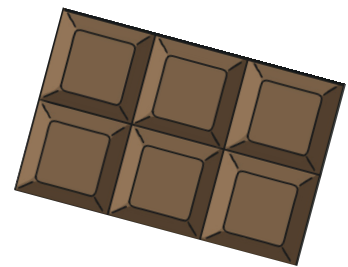
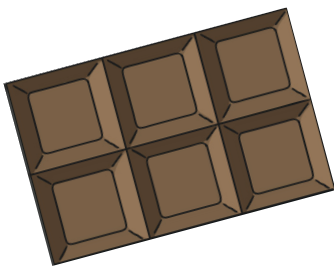
The heat your hands create and the pressure your hands put on the chocolate act like the heat and pressure applied to rocks underneath the ground.

Science Experiment

Chocolate Rocks

Make sure the layers of chocolate are separate.

When you are rolling the chocolate around, don't press too hard or the chocolate becomes too squidgy and the chocolate layers can't be seen.



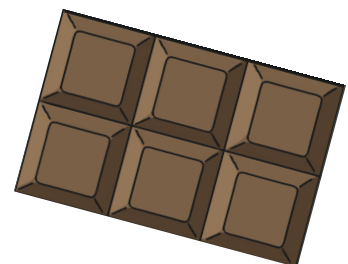
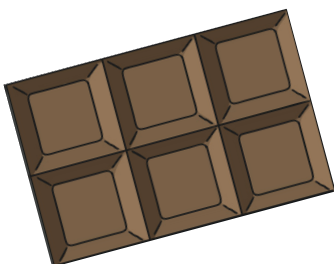
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Science Experiment

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Magic Potions

Science Experiment

Kitchens are full of lots of materials that can be used to make magic potions. Have fun making your own magic.

You will need:

- test tubes and holders (if you don't have these, a bowl will work well)
- pipette (a teaspoon will work if you don't have any)
- teaspoon
- food colouring (any colour is fine)
- bicarbonate of soda
- white vinegar



Method:

1. Put a teaspoon of bicarbonate of soda in each test tube.
2. Add a drop of food colouring to each tube.
3. Put the pipette in the vinegar and squeeze the top. You will see the vinegar sucked up into the pipette.
4. Put the pipette over a test tube and squeeze the top.
5. Wait for the magic reaction!

The science:

Vinegar is an acid. When an acid mixes with a base such as bicarbonate of soda, they react and release a gas called carbon dioxide. This is what causes the fizz.

Science Experiment

Magic Potion

Be careful when mixing the potion.

You could experiment with different amounts of bicarbonate of soda and vinegar to see if you get a different outcome.

Does the amount of food colouring change what happens?



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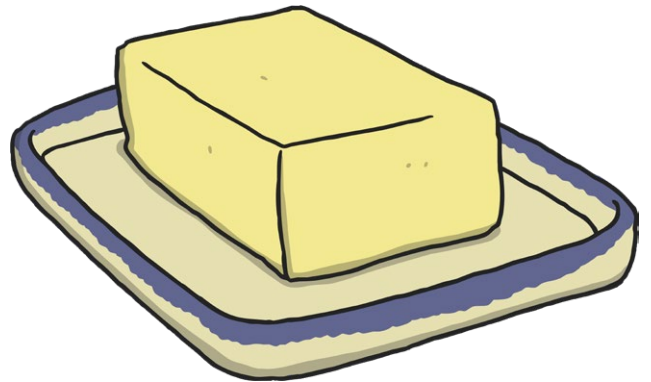
Make Your Own Butter

Science Experiment

Butter is an important part of sandwiches and tastes great on toast. Follow these instructions to make your own yummy butter.

You will need:

- cream (it needs to be thick cream so double cream or whipping cream works best)
- plastic jar with a lid
- sieve
- bowl



Method:

1. Pour the cream into the jar. The jar should be about half full.
2. Put the lid on the jar and make sure it's on tightly.
3. Now for the hard work! Shake the jar lots until you see a lump form in the jar. This could take a long time – maybe even ten minutes!
4. Eventually, you will see a lump and some liquid. The lump is butter and the liquid is buttermilk, an ingredient that can be used in lots of different things.
5. Put the sieve over a bowl. Open the jar and tip the contents into the sieve.
6. You now have separate butter and buttermilk.

The science:

Cream is made up of tiny pieces (called molecules) of fat surrounded by water. When you shake the cream, the fat molecules start to clump together in a lump. They then separate from the liquid.

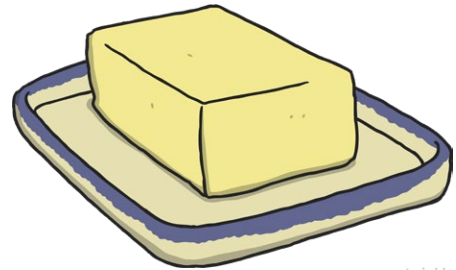
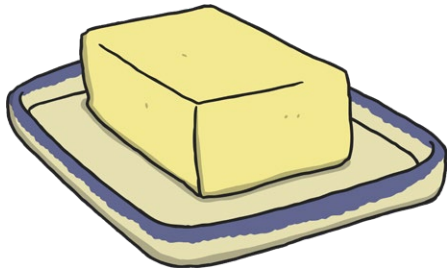
Science Experiment

Make Your Own Butter

How long did you have to shake the jar before you saw lumps starting to form?

Which is runnier, the cream or the buttermilk?

Does the cream change colour when it turns into butter and buttermilk?



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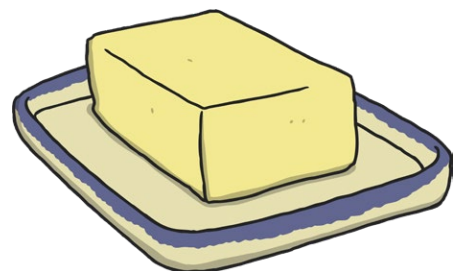
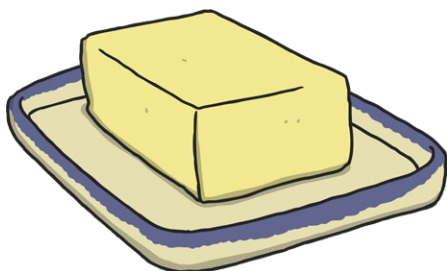
Science Experiment

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Mini Ecosystem in a Bottle

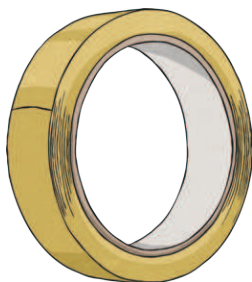
You will need:

- a transparent plastic drinks bottle or jar with a lid
- soil
- grass seeds
- a variety of seeds e.g. bean seeds, or mixed seed packet
- sticky tape

Method

1. If using the drinks bottle, cut the neck of the bottle off, just as it widens to the width of the bottle. Cut carefully as plastic can be sharp.
2. Fill the bottle about 10cms deep with soil. Try not to press it in.
3. Plant the bean seeds approximately an inch into the soil.
4. Plant some of the other seeds, leaving the grass seed until the end.
5. Lightly sprinkle some of the grass seeds over the surface of the soil.
6. Lightly cover them with soil.
7. Sprinkle water over the soil. Try not to soak it through but make sure the water trickles to the bottom of the bottle.
8. With the cap attached to the top of the cut off bottle, turn the top upside down and place, like a funnel, inside the bottle.
9. Seal the edges with the sticky tape.
10. Place in a warm sunny place and observe what happens. Record your observations on the Mini Ecosystem Recording Sheet.

Note: If you are using a jar with a lid, at Step 2 fill the jar with the soil and when complete, screw the lid on at Step 8. Be careful when handling glass.



Mini Ecosystem Recording Sheet

Day	My Observations
1	
2	
3	
4	
5	
6	
7	

Evaluation

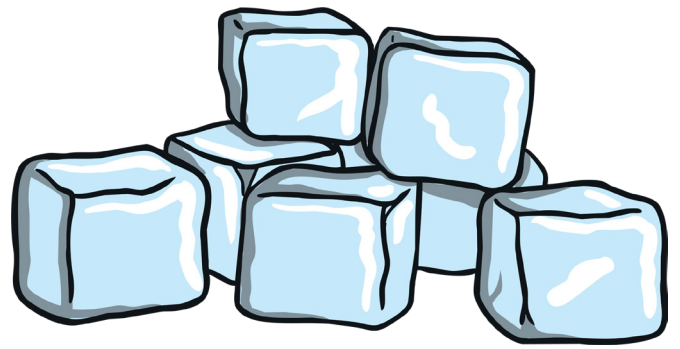
Picking Up an Ice Cube

Science Experiment

Ice cubes are a great thing to add to your drink on a sunny day. Using only a length of thread, can you pick up the ice cube?

You will need:

- ice cube
- thread
- salt
- glass of water



Method:

1. Try different ways of picking up the ice cube using only the thread. You might try tying it around the cube, making a loop or some other way.
2. Now put the ice cube in the glass of water.
3. Lay the thread on top of the ice cubes with the ends hanging over the side of the glass.
4. Sprinkle salt on top of the ice cube and thread. Leave it for a few minutes.
5. Take both ends of the thread and pick them up.
6. Lift up the ends of the thread and hold them up high. See what happens to the ice cube.

The science:

Saltwater freezes at a lower temperature than normal water (this is why the sea doesn't freeze over). The salt melts some of the ice so the thread goes slightly inside the ice cube. The water over the thread freezes again slightly (because the air by the cube is cold), trapping the thread inside the cube. So when you lift the thread, the cube comes with it.

Science Experiment

Picking Up an Ice Cube

Why is it difficult to tie the thread in a loop around the ice cube to pick it up?

Watch carefully. What happens when you put the salt on the ice cube?

When the roads are icy and slippery, salt is sometimes put on them. Why do you think this is?



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Science Experiment

Picking Up an Ice Cube

Why is it difficult to tie the thread in a loop around the ice cube to pick it up?

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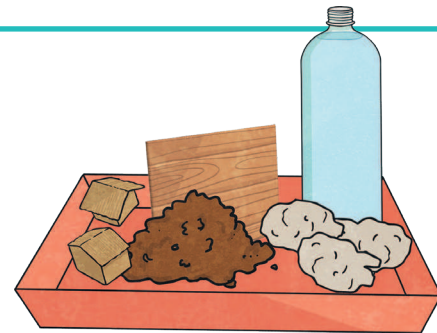


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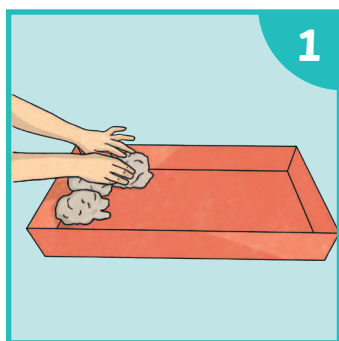
Tsunami

Materials

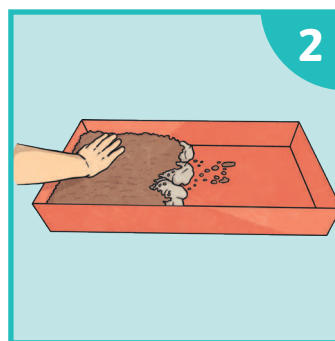
- Large plastic box (at least 40cm long, eg. an under bed storage box)
- Newspaper
- Mud
- Model houses
- Water
- Block of wood



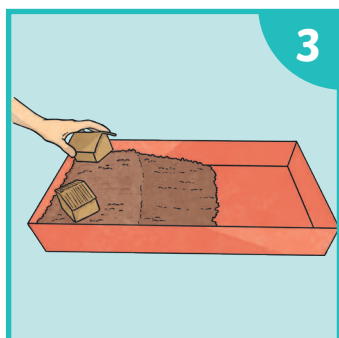
Instructions



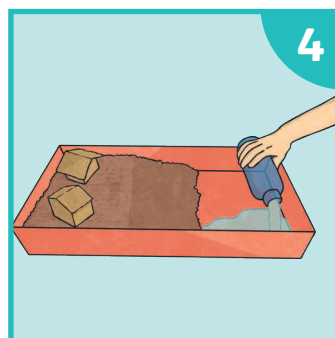
1 Place crumpled newspaper into half of a long container.



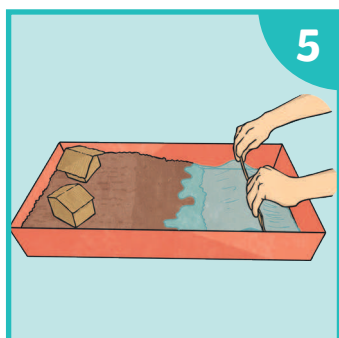
2 Place mud onto the newspaper and compress it to form slope.



3 Place cardboard houses onto the mud.



4 Pour water into the end of the container.



5 Thrust a piece of cardboard through the water.

