

Lava Lamp

https://

Materials:

- ★ A clean plastic bottle, try to use one with smooth sides
- ★ water
- ★ Vegetable Oil (or you could use Mineral or Baby Oil instead)
- ★ Fizzing tablets (such as Alka Seltzer)
- ★ Food Coloring



www.sciencefun.org/kidszone/experiments/lava-lamp/ (this is the link if needed—for clarity of instructions)

Instructions:

1. Fill the bottle up about 1/4th (1 quarter) with water.
2. Pour the vegetable oil in the bottle until it is almost full. You may want to use a measuring cup with a spout or a funnel. You may have to wait a couple of minutes for the oil and water to separate.
3. Add a few drops of your favorite food coloring. Watch as the color sinks through the oil. Did your drops of color mix with the water immediately or float in between for a few minutes?
4. Break your fizzy tablet in half and drop part of it into the bottle. Get ready ... here come the bubbly blobs!
5. You can even get a flashlight, turn off the lights and drop in another half tablet. This time shine the flashlight through the lava lamp while the blobs are bubbling!

How it Works:

The oil floats on top of the water because it is less dense or lighter than water. The food coloring has the same density as the water so it sinks through the oil and mixes with the water. When you add the tablet it sinks to the bottom then starts to dissolve. As it dissolves it makes gas, carbon dioxide. Gas or air, is lighter than water so it floats to the top. The air bubbles bring some colored water with them to the top. When the air comes out of the colored water blob, the water gets heavy again and sinks. It does this over and over again until the tablet is completely dissolved.

Extra Experiments:

What happens if you put the cap on after dropping the fizzy tablet in? What if you drop a whole tablet in? When it stops bubbling, try sprinkling some salt into your lava lamp. What happens?

Alternative recipe for a Lava Lamp—requiring less resources:

This version is taken from this term's Year 5 knowledge organisers:

Making a Lava Lamp

Materials: water, vegetable oil, food colouring, small clear plastic bottle with lid.

Steps :

1. 3/4 fill the bottle with vegetable oil.
2. Fill the rest of the bottle with coloured water.
3. Close the lid tightly.
4. Turn the bottle on its side – watch as the colour moves through the oil in funny shapes and blobs.

The water and the oil do not mix because the water has more density than the oil.

Cool Crystals

Materials

- ★ ¼ cup Epsom salt
- ★ ¼ cup hot water
- ★ Food coloring
- ★ A cup
- ★ A plate
- ★ Optional: a small jar



<https://www.sciencefun.org/kidszone/experiments/cool-crystals/> (Here is the link, if you would like more information)

Instructions

1. In the cup, measure out ¼ cup Epsom salt and ¼ hot water from the sink. Stir them together.
2. If all the salt doesn't dissolve, heat the cut in the microwave for 20-30 seconds.
3. When all the salt is dissolved, put a drop or two of food coloring in the cup and stir to mix.
4. Place the cup in the refrigerator. Check on it every half hour or hour. Within 4 hours, crystals should form in the bottom of the cup.
5. Scoop the crystals onto a plate using a fork.
6. If you want the crystals to last longer, put them in a jar with a lid (the small jars that baby food comes in work well).

How does it work?

More salt can dissolve in hot water than cold, so when the hot water cools in the microwave, the Epsom salts create crystals on the side of the cup. The unique shape of Epsom salt molecules makes them form long crystals that almost look like needles. Different crystals have different shapes. If you look at sugar or salt crystals under a magnifying glass, you can see their cool crystal shapes, too!

Further Exploration:

- ★ When crystals form after being dissolved, they will cling onto anything they can. You can drop a bottle cap into your cup of dissolved salt and they will form on it. You can make a sculpture out of pipe cleaners and they will form on that, too.
- ★ Does the experiment work with room temperature water? Cold water?

Rainbow in a Glass

Watch Scientist Joe conduct the experiment [here!](#)



Materials

- ★ Water
- ★ A mug
- ★ 5 separate cups
- ★ A Tablespoon
- ★ A clear glass
- ★ A dropper or pipette

<https://www.sciencefun.org/kidszone/experiments/rainbow-in-a-glass/> (This is the link for a visual reference if needed)

Instructions:

1. Separate the Skittles into the cups, in these amounts: 2 red, 4 orange, 6 yellow, 8 green, and 10 purple.
2. Heat a mug of water in the microwave for a minute and a half (or long enough that the water is hot, but not boiling). Be careful removing the water from the microwave—it's hot!
3. Measure and pour two tablespoons of hot water into each cup, on top of the Skittles.
4. Stir each cup carefully so no water splashes out. The cups need to be cool for the next part of the experiment, so leave them somewhere where they won't get knocked over. Stir them every ten minutes or so until the Skittles are dissolved and the water is room temperature.
5. Using the dropper, add the colored water from the five cups to the clear glass. Start with purple, then add green, then yellow, orange, and red last. Go slowly here, we don't want the different layers to mix.
6. Congratulations, you made a rainbow. You didn't even have to go outside!

How does it work?

Skittles are mostly made of sugar. When you add hot water to them, the sugar dissolves and the coloring on the shell of the Skittles turns the water different colors. The cup with only two red Skittles doesn't have as much sugar as the cup with ten purple Skittles, but they both have the same amount of water. The amount of matter packed into a certain amount of space is called the density of the material. The red water is less dense than the purple water, so it will float on top of the purple water.

Further Experiments

- ★ We added our colors in heaviest-to-lightest order. Does the rainbow still form if you add the red water first, then the orange, yellow, green, and purple?
- ★ What happens if you stir your rainbow? What if you leave it sitting there over night?

Check out the fun craft activities below to learn more about Anglo-Saxon settlements and the way they lived:

Anglo-Saxon Houses:

The Anglo-Saxons lived in small villages built in areas with good natural resources, such as rivers for drinking and bathing, good farmland for crops

and animals and trees to build houses and fences from wood. They would build a large fence around their settlements to protect their farm animals from predators (and themselves from their enemies!).



Anglo-Saxon houses were very basic. They consisted of a a small hut made from wood with a straw roof. They only had one room with a small fire in the centre where the whole family would eat, sleep and live. They rarely had windows but would occasionally have a small hole in the roof to allow smoke from the fire to escape.



Activity:

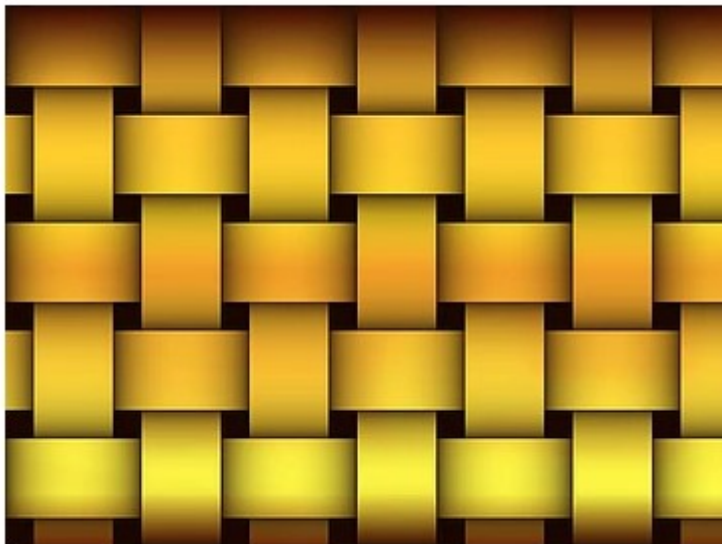
Build your own Anglo-Saxon model house using craft resources. Use a cardboard box as the base structure, add lollypop sticks for the wooden planks and wool or straw

for the roof. Or why not go outside and choose some sticks from the garden to use as your building materials?

Anglo-Saxon Weaving:

Weaving is a process where you interlace threads together to make fabric. The Anglo-Saxons

used weaving to make their clothes, sails for their ships, decorations for their houses, blankets, bags and more. It was a lengthy process that started with sheering the sheep for their wool. The wool is then washed, combed and spun into long strands called yarn. The yarn is then dyed using a mixture of plants and natural resources before being weaved into fabric on a loom.



the basics of weaving.

Activity:

Learn how to weave your own fabric using a cardboard loom and different coloured yarns. This simple under/over method from [I.K. Tolbert](#) is practical for all ages and abilities and teaches you

<https://www.youtube.com/watch?v=-ByYj5G4-Hc> This link demonstrates an easy way to try weaving.

Anglo-Saxon Brooches:

Both men and women would have worn jewellery in Anglo-Saxon times. They made necklaces and bracelets with glass beads and gemstones such as

amber or amethyst. But their greatest skill was in intricate metalwork which they included in many of their accessories. After all, what better way to show off your wealth by draping yourself in gold jewellery. Their metalworkers were highly respected for their work, which included inlaying precious stones into metal, colouring metal with enamel, gilding and metal plating. The most popular metal accessories were belt buckles and brooches for holding together items of clothing.



Activity:

Create your own Anglo-Saxon brooch using card or embossing foil.

Norfolk Heritage provide two excellent guide to create different types of Anglo-Saxon brooches. Just print out the template and either decorate the design with your own

coloured crayons/pens or press the design into foil for an embossed look. Stick to stiff card with a safety pin or badge back to attach to your clothing.

No template available– sorry.

Make your own Late Saxon disc brooch

You will need:

Pencil and paper

Colouring pencils, crayons or felt tip pens

Scissors

Glue

Stiff card

Badge back or safety pin

1. Create a design for your brooch . (we do not have a template unfortunately)
2. Colour in your design. You could use one colour to make it look like copper, silver or gold. Or you could use your imagination and make it various different colours.
3. Stick the coloured brooch onto a piece of stiff card.
4. Carefully cut around the outline of the brooch.
5. Attach a badge back or safety pin to the back of the card.

