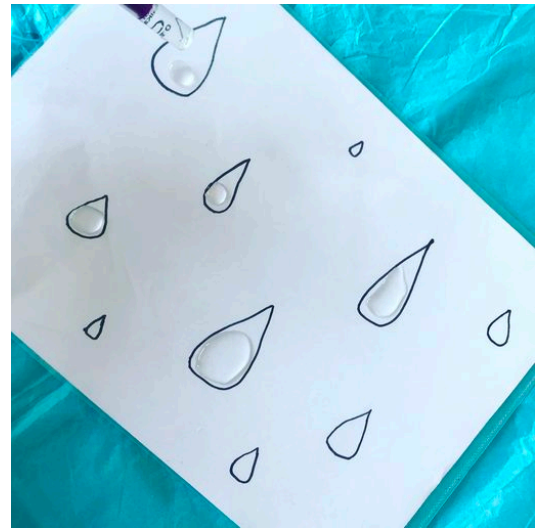


Falling Raindrops

What holds raindrops together?

You will need

- A pipette or syringe
- Water
- A piece of A4 paper
- A pen
- A plastic wallet



How to do it

- 1) Begin by drawing outlines of raindrops onto a piece of paper. Try to vary the size and shape of each raindrop.
- 2) Place the paper inside a plastic wallet and position it on a flat surface. The plastic wallet helps to protect the paper from getting smudged or damaged as you add the water.
- 3) Fill the pipette or syringe with water. Then carefully add drops of water to the raindrop outline. How many drops of water can the raindrop hold before the water spills over the edge?
- 4) Repeat the activity on a raindrop of a different size or shape.

What are we learning?

As we add more drops of water onto the raindrop we see a dome shape forming. The water molecules are attracted to each other and make a single large drop. At the same time, a property called surface tension tries to minimise the surface area of the water, making the curve shape. This also prevents the water from spilling out. However, as we add more drops, the gravitational pull on the weight of the water eventually becomes more powerful than the surface tension, causing the water to spill.

As raindrops fall from the sky they begin their journey as a sphere shape. As they fall to the ground, the force of gravity pulls them downwards. The force of air resistance pushes up against them, flattening the bottom of the raindrop.

Investigate

Repeat this activity on a penny coin. Which side holds the most drops of water, heads or tails?

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