Cloud in a bottle

At-home science activity

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You will need:

- A plastic bottle with a sports cap
- A gas lighter
- Splint or other thin pieces of wood
- Warm water

*Important: For safety, this experiment has to be done in the presence of a guardian.

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1. Pour a small amount of warm water into a plastic bottle.

2. Screw on the cap, but leave it open.

3. Use a gas lighter to light a splint.

4. Blow out the splint and allow it to smoke.

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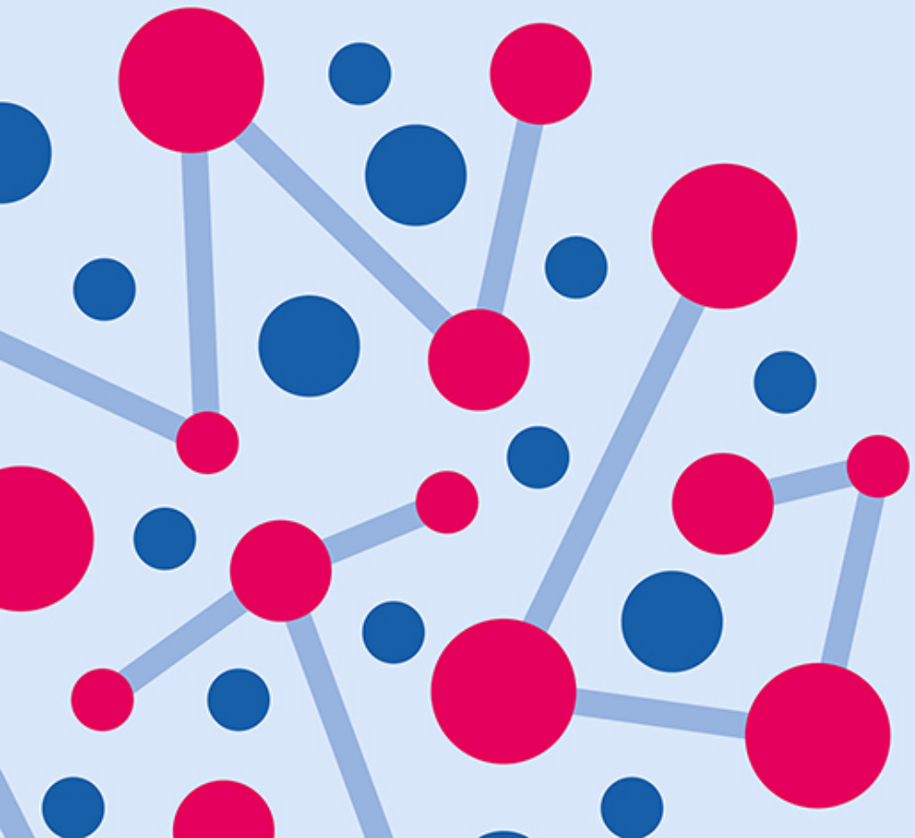
5. Squeeze the bottle and hold the splint to the open cap, then release the bottle so the smoke is sucked inside.

6. Close the cap and start to squeeze and release the bottle. Each time the bottle is released, a cloud forms inside it.

7. Why does this happen? Swipe to find out!



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- Clouds are made from tiny water droplets.
- Warm water saturates the air inside the bottle with water vapor.
- If water vapor is cooled it will condense (change of state from vapor to liquid).
- Squeezing and then releasing the bottle (with the cap closed) causes the gas inside to cool.
- Wood smoke is made of tiny particles. When there are particles in the vapor/air mix the water droplets cling to the particles and clouds are created.
- This is called cloud seeding: the artificial nucleation of clouds.