

How do glow sticks glow?



A glow stick has no battery, no wire, and no switch. You just bend it, shake it, and it glows. How does that work?



Why?

1. Snap! Two liquids mix.

A glow stick is a plastic tube filled with a liquid. Floating inside is a thin little glass tube, with a different liquid in it. When you bend the stick, the glass tube cracks. Shaking helps the two liquids mix all the way.

2. Mixing starts a chemical reaction.

Tiny bits of the two liquids bump into each other and change into new stuff. As they change, they give off a little bit of energy. That energy gets handed to the color in the stick, called a dye.

3. Electrons jump up and fall down, and make light.

When an electron in the dye gets the energy, it jumps up high, like a kid on a trampoline. Boing! Then it falls back down, and lets the energy go as a tiny flash of light. Millions of electrons do this again and again, and the whole stick glows!

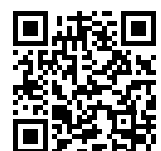
Try it! Warm or cold?

You need: two glow sticks of the same color, a cup of warm tap water, a cup of ice water, and a grown-up

1. With a grown-up, snap two glow sticks of the same color.
2. Put one in a cup of warm tap water, and one in a cup of ice water.
3. Turn off the lights. Which one glows brighter? And which one lasts longer?

What happened? Warm makes the reaction go faster, so the stick glows brighter but runs out sooner. Cold slows it down, so it glows dimmer but lasts longer.

Video + more questions:
whywhywhykids.com/glow



scan with a grown-up