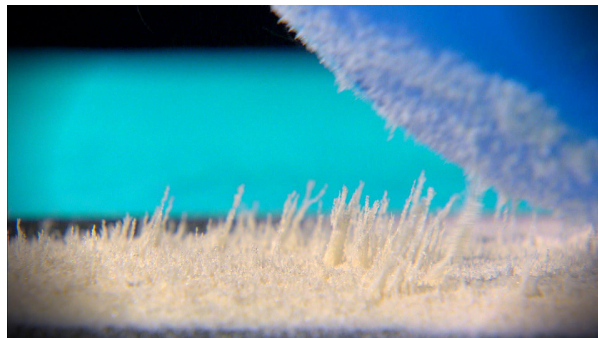


Activity: Static Gelatine/Static Fluorescent Light

On SCOPE's Things that... make electricity episode, you saw Julia use static electricity to make a gelatine forest and light a fluorescent tube!



What you need:

Balloons
Gelatine
Fluorescent light tube
Some hair (a woolly jumper also works well)

What to do:

Part 1: Static Electricity

1. Blow up the balloon and rub it against your hair. What happens when you pull the balloon away?

Part 2: Gelatine Forest

1. Sprinkle some gelatine onto a flat surface.
2. Once again, rub the balloon in your hair and then hold the balloon about 3cm above the gelatine. What happens?

Part 3: Static Fluoro Tube

1. For the final time, rub the balloon in your hair. You will need to make sure the balloon has a strong charge, so give it a good rub.
2. Turn off the lights
3. Hold the balloon next to the light. What happens?

What's happening?

Electrons are tiny, negatively charged particles that buzz around an atom, and electricity is all about the flow of these electrons from one place to another. Although, there is a special type of electricity where the electrons don't flow, they are static, and it is called static electricity! A good way of making static electricity is to rub things together, like balloons and hair.

When you rub the balloon against your hair (or something like a woolly jumper), electrons move from the hair to the balloon. The balloon then becomes negatively charged as it has extra electrons, and the hair is positively charged because it has lost electrons. This process causes the balloon to have a static charge and your hair to stand on end, because opposites attract!

Gelatine is often used in cooking, but more importantly it is a really fine powder. When the charged balloon moves over the powder, it is drawn upwards toward the balloon to make a gelatine forest! But what is happening? Well the gelatine is attracted to the negative charge of the balloon and because gelatine is so light, the static electricity is strong enough to lift it up.

When you hold the balloon next to the fluoro, it should light up! This is because electrons from the balloon are moving onto the tube, causing a spark of light inside. It is a pretty amazing demonstration but it wouldn't be a very practical way of lighting a room!