

Static Electricity Investigation

Station 1: Magic Pepper

Give two reasons why static electricity is similar to magnetism.

Station 2: Bendy Water

Why is the water attracted to the pipe even when there is no overall charge?

Station 3: Rolling Can

What is the difference between a conductor and an insulator? Give examples to support your answer.

Investigation Stations **Gold**



Station 4: Double Bubble

Why are bubbles attracted to the PVC pipe?

Station 5: Hair Raising

Why is the balloon attracted to the hair after it has been rubbed on someone's head?

Station 6: The Levitating Spell

What happens to an insulator that gains electrons?



Static Electricity Investigation Answers

Station 1: Magic Pepper

Give two reasons why static electricity is similar to magnetism.

Static electricity is similar to magnetism in that it involves charges. Like charges repel and opposite charges attract.

Station 2: Bendy Water

Why is the water attracted to the pipe even when there is no overall charge?

The PVC pipe is rubbed with a cloth. The pipe becomes negatively charged. Water molecules are neutral overall but have a positive and negative end. As the pipe moves closer to the water, the molecules position themselves so that the positive end is facing the negative pipe. We say that the water is attracted to the pipe.

Station 3: Rolling Can

What is the difference between a conductor and an insulator? Give examples to support your answer.

A conductor is a material that will allow an electrical charge to pass through it, such as metal.

An insulator is a material that will not allow an electrical current to pass through it, such as wood.

Investigation Stations Gold



Station 4: Double Bubble

Why are bubbles attracted to the PVC pipe?

When the PVC pipe is rubbed with the cloth, it gains electrons from the cloth. The soap bubbles have a positive charge; when the pipe is moved towards them, the bubbles move towards the pipe as opposites attract.

Station 5: Hair Raising

Why is the balloon attracted to the hair after it has been rubbed on someone's head?

Electrons are transferred from the balloon on to the hair. This causes the hair to become negatively charged and attracted towards the positively charged balloon.

Station 6: The Levitating Spell

What happens to an insulator that gains electrons?

A material that gains electrons will become negatively charged.

