

Static Electricity Investigation

Station 1: Magic Pepper

Give two reasons why static electricity is similar to magnetism.

Static electricity is the result of an _____ between _____ and _____ charges in an object.

Just like in magnetism, like charges _____ and opposites _____.

Station 2: Bendy Water

Why is the water attracted to the pipe even when there is no overall charge? Fill in the gaps, using the following words to help you: **attracted, cloth, negative, positive, pipe, negatively charged.**

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

An insulator is _____

Investigation Stations Bronze



Station 4: Double Bubble

Why are bubbles attracted to the PVC pipe? Fill in the blanks using these words to help you: **rubbed, attract, positive, gains**

When the PVC pipe is _____ with the cloth, it _____ electrons from the cloth. The soap bubbles have a _____ charge, so when the pipe is moved towards them the bubbles move towards the pipe because opposites _____.

Station 5: Hair Raising

Why is the balloon attracted to the hair after it has been rubbed on someone's head? Use the following words to help you fill in the gaps: **positively charged, electrons, negatively charged.**

_____ are transferred from the balloon onto the hair. This causes the hair to become _____ and attracted towards the _____ balloon.

Station 6: The Levitating Spell

What happens to an insulator that gains electrons?

A material that _____ electrons will become _____.



Static Electricity Investigation Answers

Station 1: Magic Pepper

Give two reasons why static electricity is similar to magnetism.

Static electricity is the result of an imbalance between negative and positive charges in an object.

Just like in magnetism, like charges repel and opposites attract.

Station 2: Bendy Water

Why is the water attracted to the pipe even when there is no overall charge? Fill in the gaps, using the following words to help you: **attracted, cloth, negative, positive, pipe, negatively charged.**

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 **Bronze**



Station 4: Double Bubble

Why are bubbles attracted to the PVC pipe? Fill in the blanks using these words to help you: **rubbed, attract, positive, gains**

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

Station 5: Hair Raising

Why is the balloon attracted to the hair after it has been rubbed on someone's head? Use the following words to help you fill in the gaps: **positively charged, electrons, negatively charged.**

Electrons are transferred from the balloon onto 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.

