

Static Electricity - Student Worksheet

If two objects are rubbed together and if the outer electrons in their atoms are not strongly bound to their nuclei, electrons can be transferred within the objects and from one to the other.

The objects or parts gaining electrons become develop a negative field and those losing electrons develop a positively charged field. These fields

are similar to magnetic fields and can cause the objects to be pulled together or to move apart. This could happen if you repeatedly brush or comb your hair and it stands on end.



Please Note: *Static electricity is not like domestic electricity. It completely discharges all at once. The charged balloon needs to be recharged every single time.*

Materials per group

- 1 balloon inflated and tied off
- A generous student with a good head of fine hair or a woolen scarf or a dry microfiber cloth
- A clean plastic comb
- Smooth wall or roof
- A pile of small pieces of paper
- Chads from a hole punch or a finely shredded tissue
- An aluminium cool drink can



Name _____

Static Electricity - Student Worksheet

Method

A. Balloon and wall or ceiling

1. Rub the inflated balloon vigorously on hair or a scarf or a microfibre cloth to "charge" it.
2. Place it firmly against the wall or ceiling. If it does not stick, repeat.

Observations

B. Balloon and shredded paper

1. Rub the inflated balloon vigorously on hair or a scarf or a microfibre cloth to "charge" it.
2. Hold the balloon a short distance above the shredded paper.

Observations

Name _____

Static Electricity - Student Worksheet

C. Balloon and hair

1. Rub the inflated balloon vigorously on hair or a scarf or a microfibre cloth to "charge" it.
2. Hold it above the head of another student with fine hair.

Observations

D. Balloon and fine stream of water

1. Rub the inflated balloon vigorously on hair or a scarf or a microfibre cloth to "charge" it.
2. If you have a goose necked tap, let a very fine stream of water run and approach it from the side with the charged balloon. Note: If the balloon is touched by the water it will instantly lose all its charge. It must be rubbed again to pick up a new charge

Observations



Name _____

Static Electricity - Student Worksheet

E. Comb, hair and shredded paper or chads

1. Vigorously comb hair to charge the comb.
2. Hold the comb just above the shredded paper.

Observations

F. Comb and aluminium can

1. Vigorously comb hair to charge the comb.
2. Approach the can laid on its side. Note: If the comb and can touch repeat combing to recharge it.

Observations