Charge Up Your Cheerios®!

What you need:

- 2 Cheerios
- Wire coat hanger
- Thread
- Plastic comb or pen
- Felt or wool

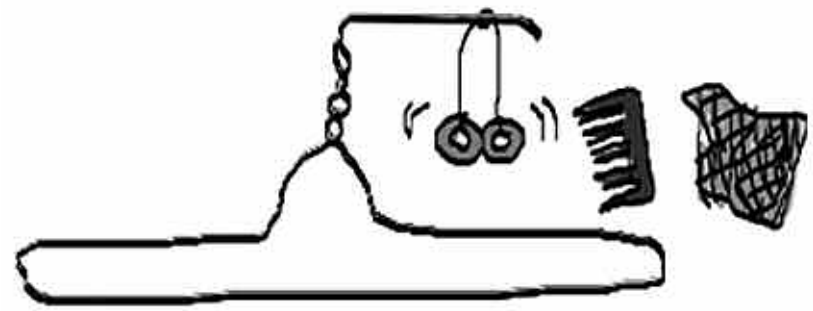
1) Bend the coat hanger so it makes a stand like the one shown in the diagram.

2) Tie one Cheerio to each end of the thread and wrap it around the end of the coat hanger top.

3) Make sure the Cheerios are even and aren't touching the table.

4) Now, rub the comb through the piece of wool and touch the comb to one of the Cheerios.

5) What happens?



DIAGRAM

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Educator Note: The following Safety Smart® Science "teaching opportunity" is designed to focus on improving safety knowledge through understanding the science behind the safety.

Protons have a positive charge. Electrons have a negative charge. Neutrons are neutral so they have no charge. While protons and neutrons make up the nucleus (the middle) of an atom, electrons revolve around the nucleus.

However, electrons can move. The flow of electricity is based on the movement of charged particles like electrons. Materials that allow electric current to flow through them are called conductors. Metals (aluminum and copper) and water are conductors. Some materials do not allow electric current to flow through them. These materials are called insulators. Plastic, rubber, air, glass are insulators.

By rubbing the comb on the wool, electrons (which have a negative charge) moved from the wool to the comb. The result is the comb receiving a negative static charge.

We all know that "opposites attract" - a positive and a negative charge will pull towards each other. A charged object will also attract an object that is neutral. In contrast, things with the same charge (positive to positive or negative to negative) will push away or repel from each other.

In this case the cereal was neutral and was free to move, so the cereal was attracted to the comb. When the comb touched the cereal, the electrons moved to the cereal. Once the cereal and the comb were both negatively charged, the cereal was repelled.

Static electricity can also build up on a person. When you walk across a carpet, electrons move from the carpet to you. Those extra electrons create a negative static charge. If you were to touch a doorknob the electrons would jump from you to the knob and you would feel the static shock. The doorknob is a conductor.