

A young girl with dark hair is smiling broadly. Her hair is standing up and is surrounded by a bright green, jagged, cloud-like outline. Two yellow lightning bolts are positioned near the top of the green outline, suggesting a static electricity effect. She is wearing a yellow turtleneck sweater.

Electricity

Electricity

- ▶ What is electricity?
 - Electricity is the movement of electrons.
 - Every single item in the whole world is made up of tiny, tiny things called atoms. Electrons are inside each of these tiny atoms circling around the nucleus.
- ▶ What items in your classroom use electricity?



Electrons

- ▶ What type of a charge do electrons have?
 - Electrons have a negative charge.
 - Most electrons stay inside their own atoms, but sometimes they leave one atom and jump to the next. This is because their negative charge causes electrons to push away from, or repel, each other.
 - Electrons then make a stream that runs from one atom to another. This stream is called an electric current.



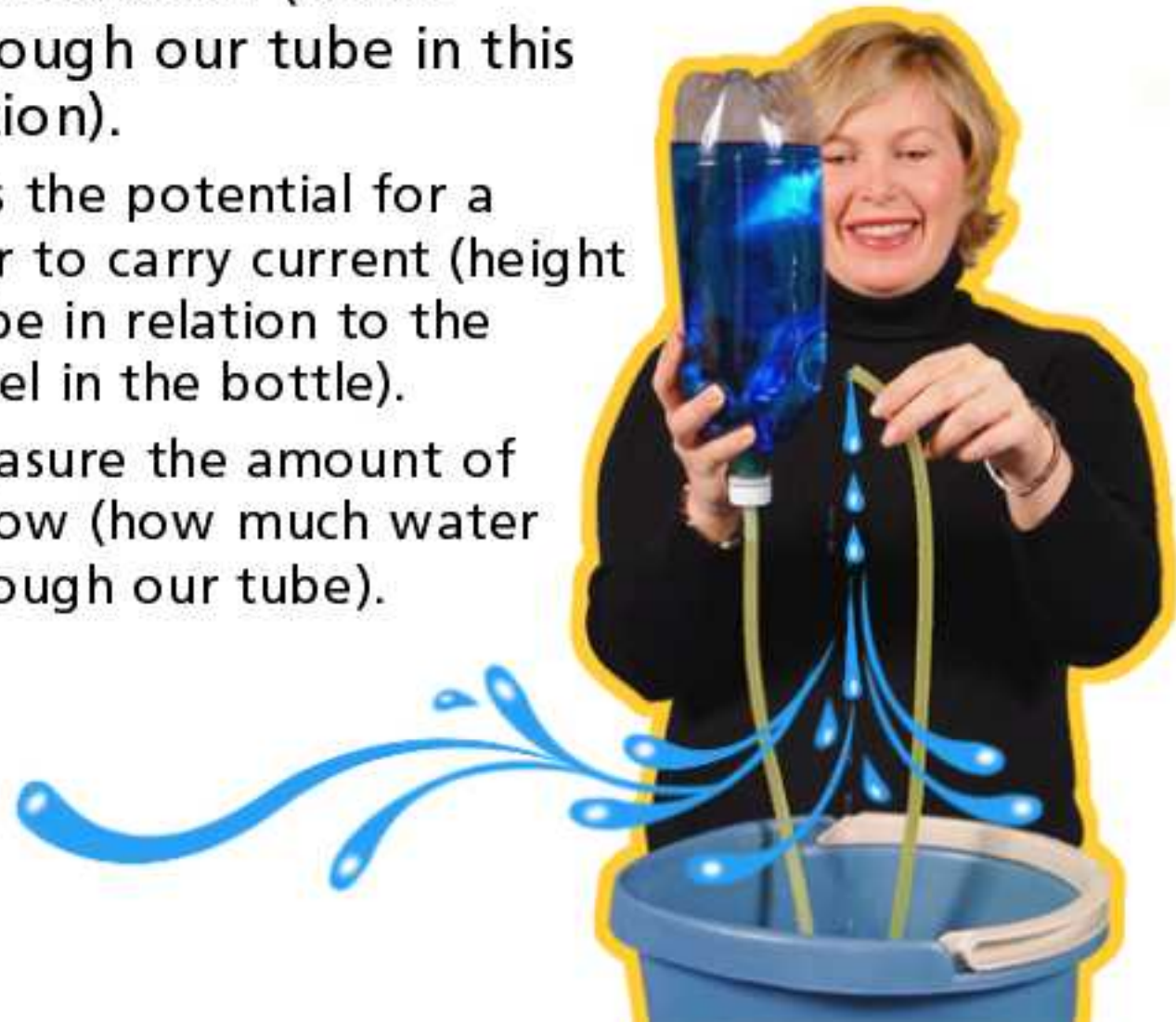
Current

- ▶ What do you think the word current means?
 - Current can be defined as to run or flow.
 - You have probably observed water current in a river or stream.
 - When electrons run or flow through conductive material it is known as an electric current.



Water Demonstration

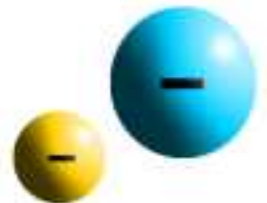
- ▶ Current is the flow of electrons through a conductor (water flowing through our tube in this demonstration).
 - Voltage is the potential for a conductor to carry current (height of the tube in relation to the water level in the bottle).
 - Amps measure the amount of current flow (how much water flows through our tube).



Conductivity



- ▶ Who knows what it means for a material to be conductive?
 - It means that current runs through the material easily. The electrons are loosely bound.
- ▶ In our water demonstration, what type of material would the tubing have to be if we wanted electricity to flow through it?
 - Gold, copper, aluminum, or other metals
- ▶ Experiment with the conductivity display



Experiment Stations

- ▶ Magnets
- ▶ Static
- ▶ Lemon battery
- ▶ Simple circuit



Have fun!

