

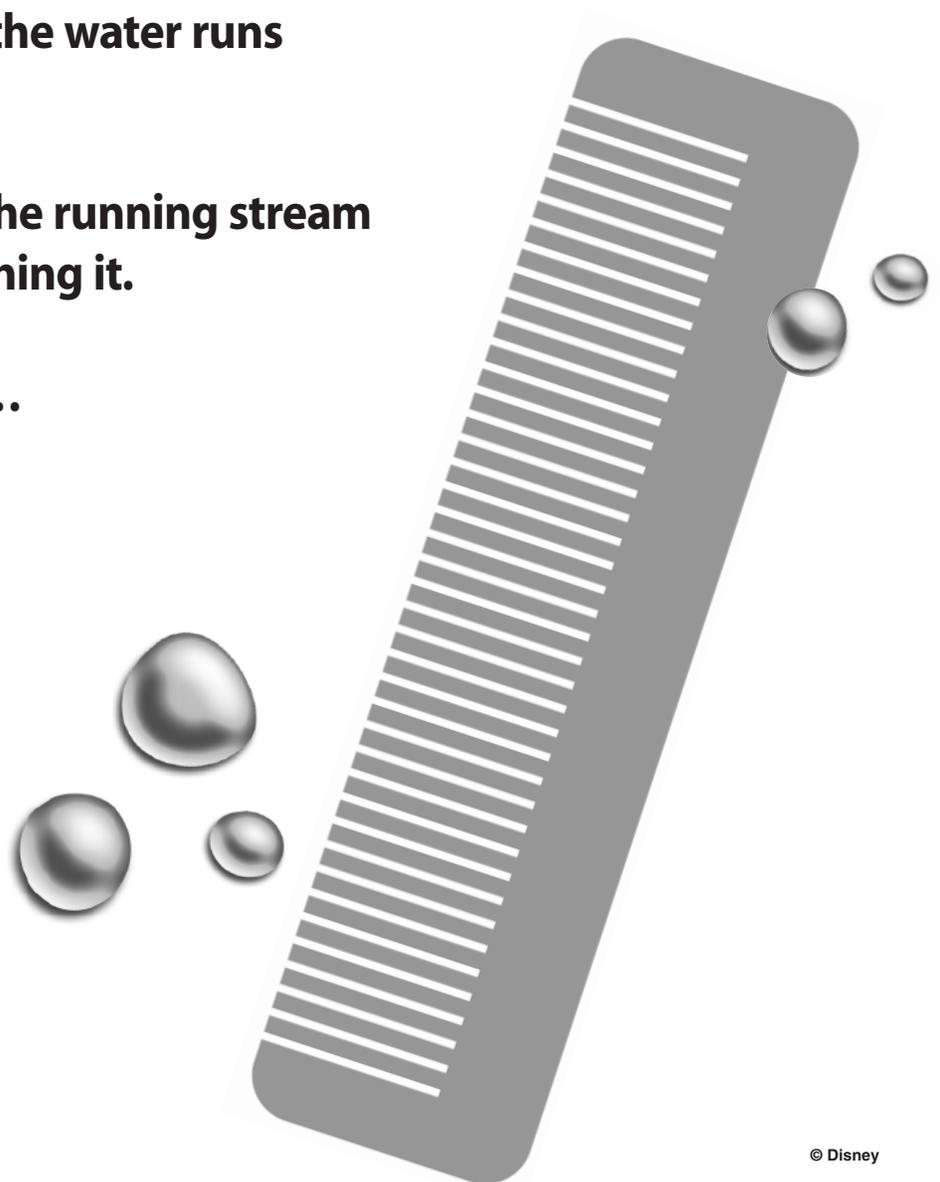
The Amazing

Water Bending Trick

Try this trick at home—or in class if your classroom includes a sink.

All you need for this experiment is a faucet with running water and a comb.

- 1) Create static electricity on a plastic comb by combing your hair.** *(You can also “charge” any type of plastic rod with wool.)*
- 2) Turn on the faucet so the water runs slowly but smoothly.**
- 3) Bring the comb near the running stream of water without touching it.**
- 4) Watch what happens...**



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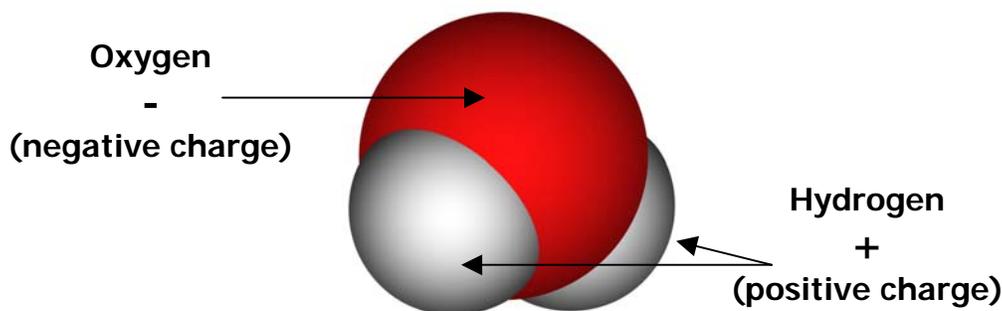
Educator Note: The following Safety Smart® Science “teaching opportunity” is designed to focus on improving safety knowledge through understanding the science behind the safety.

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, move around the nucleus.

By running the comb through hair, the electrons (which have a negative charge) moved from the hair to the comb. The result is the comb has a negative static charge.

We all know that “opposites attract” - a positive and a negative charge will pull towards each other. In contrast, things with the same charge (positive to positive or negative to negative) will push away or repel from each other.

An important feature of water is its polar nature. A water molecule has both a negative and positive charge. Each molecule of water has two hydrogen atoms bonded to a single oxygen atom, H₂O.



As the negative charge in the comb gets closer to the water, the side of the molecules with the positively charged hydrogen atoms will be attracted – opposites attract. The attraction is strong enough to pull the water towards the comb as it is flowing.

The polar nature of water is one of the reasons water is such a good conductor of electricity. That is why it is important to remember that water and electricity don't mix.