

Laws of "Attraction"



Materials

- A plastic comb or ruler
- A faucet with running water
- A test subject with hair (it can be yourself!)

Procedure

- First, go to a sink and turn the cold knob until a slow and steady stream of water is pouring out.
- Then, take the plastic ruler and run it through your hair twenty to thirty times
- Now, making sure not to touch the ruler to anything, slowly move the edge of the ruler, which is farthest from your hand, towards the running water that is near the bottom of the sink.
- Watch as the water starts to bend toward the ruler! Why do you think that works?

The Scientific Explanation

Well, everything that you see around you is made of lots and lots of tiny little things called **atoms**. Each of these atoms has **protons**, which are positively charged, and **electrons**, which are negatively charged. When the atoms of an object have more **electrons**, then the object also has a **negative** charge. When the atoms have more **protons**, then the object is **positively** charged. Things that have **opposite** charges are attracted to each other. When you run the ruler through your hair, it makes some of the electrons in your hair “jump” to the ruler. That causes the ruler have more electrons, which means it has a negative charge. Water is made of groups of two hydrogen atoms and an oxygen atom which have combined to make **molecules**. Each water molecule has a positively charged side near the hydrogen and a negatively charged side near the oxygen. The positive sides of the water molecules are attracted to negatively charged things, like the ruler. Because of this attraction, the water bends when the ruler moves closer to it.
