

Twist the Straw

The Action Investigate what happens to a straw, suspended on a pencil, inside of a glass jar when a charged comb is brought near.

Grade Level
Grade 4 – Electricity & Magnetism
Grade 6 – Energy in our Lives
Grade 9 – Using Electricity

Materials
Straw
Glass jar (beaker will work)
Pencil
String
Comb
Cloth or rag

Instructions Take a plastic straw (attached to string), and suspend it on a pencil. Place the suspended straw inside of the glass jar. Thus, you have to make sure that the pencil covers the width of the glass jar used. Now, charge your comb by rubbing it vigorously with your cloth. Bring the comb close to the outside of the jar, and observe the straw twist and turn!

Safety

Hints Thin glass jars work much better than thick glass jars, which is why a beaker can work to replace the jar.

Science Principle A typical explanation of this event is that rubbing causes charges. Therefore, when we rub the comb, we create a static electricity charge. Then when the comb is brought near the outside of the jar, the charge is gained by the straw causing it to twist and turn.

Some substances tend to gain electrons easily, while others tend to lose electrons easily. Therefore, when two different substances are brought close together, the electrons move from one to the other. This creates the static electricity charge we described, and causes the straw to move.

