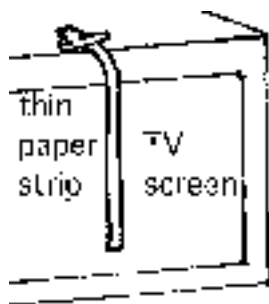
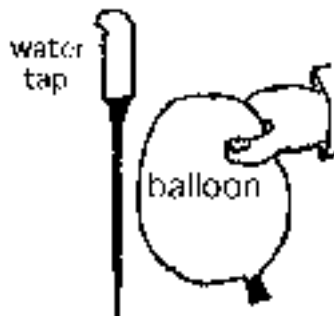


Static Attraction



You Need

- 1 wool sweater
- 1 balloon
- 1 empty pop can
- 1 water tap
- 1 strip of paper 1 cm x 30 cm
- 1 TV set (at home or at school)

What to Do

1. Place an empty pop can on its side, on a table. (See Figure 1.) Rub a balloon against a wool sweater or your own hair.
2. Place the rubbed balloon near but not touching the empty pop can. Can you make the pop can roll along the table, without touching it?

Think About It!

What kind of force is moving the can?

3. Turn on a cold-water tap. Adjust the flow so that you have a fine, steady stream of water.
4. Rub a balloon against a wool sweater or your own hair. What happens when you bring the balloon near the stream of water, as in Figure 2?

Think About It!

What kind of force is affecting the stream of water?

5. Cut a strip of paper 1 cm wide by about 30 cm long. Tape the strip to the top frame of the screen of a television set (which is off). See Figure 3. Predict what will happen to the hanging strip of paper when the television set is turned on.
6. Turn on the television set. What happens to the strip of paper?

Think About It!

1. What kind of force is acting on the paper strip?
2. Why does your TV or computer screen get so dusty all the time?
3. When you take certain types of clothing out of the dryer, they may make a 'crackling' sound. What causes this sound?

- This experiment is best done on a dry day.

Static charge tends to dissipate too quickly on a damp day.

- Rubbing a balloon against one's hair or a sweater produces a static electric charge on both objects. The rubbed balloon will attract the light aluminium pop can, and make it roll along the table toward the charged balloon. It looks like magic, but it's just static electrical force at work.

- A rubbed balloon has a negative static electric charge on it, which will attract the water molecules coming out of the tap. The paper strip will be attracted to the TV or computer screen, because a negative static electric charge develops on the screen when the television or computer monitor is 'on'.

- In all of these activities, the force is caused by static electricity. The 'crackling' sound you hear when you separate clothing fresh from the dryer is sparking, caused by a discharge of static electricity on the clothes.