GENERATIONGENIUS
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DIY ACTIVITY

MAKE A STATIC ELECTRICITY LEVITATION DEVICE

GRADES 3–5

OBJECTIVES

- Observe the interaction between the balloon and plastic bag.
- Recognize that an unseen force exists between the two objects.
- Explain that like static electric charges repel and opposite charges attract.

MATERIALS NEEDED

- Cotton towel
- Plastic produce bag
- Scissors
- Balloon*

Activity Duration: 10–15 minutes

PROCEDURE

WATCH THE DIY SEGMENT IN THE MAGNETS AND STATIC ELECTRICITY VIDEO.

1. Cut a strip from the open end of the plastic bag. Set to one side.
2. Inflate and tie off the balloon. Set to the other side.
3. Lay the strip of plastic on the table and rub it with the towel.
4. Hold on to the balloon with one hand and rub the surface of the balloon with the towel.
5. With the balloon still in one hand, pick up the strip of plastic and "float" it about one foot above the balloon. It should appear to levitate.

WHAT IS GOING ON HERE?

When two different materials rub against each other, they become electrically charged. One becomes positive, and the other becomes negative. Opposite charges attract and like charges repel. This happened between the balloon and the towel and also between the plastic and the towel, leaving the balloon and the plastic with the same charge and causing them to repel each other.

FURTHER EXPLORATION

- Experiment with different materials in place of the balloon, bag, and cloth. For example, try paper instead of the bag, and wool instead of cotton. Is it possible to create a scenario in which charges are opposite (and attract vs. repel)?
- In the video, static electricity keeps the balloons stuck to Izzy's clothes. Why? Experiment with balloons and static electricity to get them to stick to your clothes.

⚠ Be aware of possible latex allergies.