

# Flying Hoops & Snowflakes

Levitation is easier than you may think!

## WHAT TO DO

Gently press and rub the thin polystyrene grocery bag hoop on the tabletop, then rub the PVC pipe with cotton cloth. Toss the hoop in the air then hold and move the PVC "wand" underneath to levitate the hoop.

## WHAT'S HAPPENING?

Rubbing together two objects made from very different materials often creates an electric charge imbalance between them by a process called tribo-electrification. One object effectively "steals" some electrons from the other and gains a net negative electrical charge, while the other, having lost some of its electrons, is left positively charged. Objects with the same electrical charge repel each other and objects with opposite charge attract due to what are often called electrostatic forces or "static electricity", which can be strong enough to overcome gravity and make objects levitate. Note that tribo-electrification can often be difficult to predict and control (especially if the humidity is high), so experiment with different combinations of materials to see what happens.