LEVITATING PING PONG BALL

SCIENCE SAFETY

PLEASE follow these safety precautions when doing any science experiment.

- **ALWAYS** have an adult present.
- **ALWAYS** wear the correct safety gear while doing any experiment.
- **NEVER** eat or drink anything while doing any experiment.
- **REMEMBER** experiments may require marbles, small balls, balloons, and other small parts. Those objects could become a CHOKING HAZARD. Adults are to perform those experiments using these objects. Any child can choke or suffocate on uninflated or broken balloons. Keep uninflated or broken balloons away from children.

INGREDIENTS

- Bendable Straw
- Ping Pong Ball

INSTRUCTIONS

STEP 1: Bend the short end, of the bendable straw, upward.
STEP 2: While blowing through the straw, place the ping pong ball into the stream of air and observe. Provide evidence of the effects of balanced and unbalanced forces on the motion of the ping pong ball.
STEP 3: Gently blow through the straw and observe. Now, with more force, blow through the straw, and observe. Compare the effects of different strengths of pushes and pulls on the motion of the ping pong ball.

EXPLANATION

Multiple forces are acting on the ping pong ball. Gravity pulls the ping pong ball toward Earth while your breath pushes the ping ball upward. Where the forces balance, the ping pong ball floats. The fast stream of air, flowing around the aerodynamic ping pong ball, creates a lower pressure, directly around the ball. The higher pressure, surrounding the ball, forces the ball into the stream of air.

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SCIENCE BACKGROUND

A force is a push or pull, which can cause an object to be in motion. Pushes and pulls can have different strengths and directions. Each force acts on one particular object and has both strength and a direction. An object at rest typically has multiple forces acting on it, but they add to give zero net forces on the object. Forces that do not sum to zero can cause changes in the objects speed or direction of motion. Motion is a change in position. The mass of an object affects the objects motion. An object with more mass requires a greater force to put the object in motion. Speed is how far an object moves over a specific period of time. An object moving at a greater speed changes position faster than an object moving at a slower speed. Inertia is the tendency of an object to resist change.

I CAN STATEMENTS

- ✓ I can plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.
- ✓ I can plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.

NEXT GENERATION SCIENCE STANDARDS CONNECTION

K – Forces and Interactions: Pushes and Pulls I Cause and Effect
3 – Forces and Interactions I Cause and Effect