



ULTIMATE SNOWBALL

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 when performing 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

- Snow

INSTRUCTIONS

STEP 1: Scoop up enough snow to fill your hands.

STEP 2: Merge your snow filled hands together and apply a force. Gradually increase the force while rotating your hands.

STEP 3: Once you feel resistance, smooth the surface of your snowball, throw the snowball, and observe.

STEP 4: Scoop up more snow to fill your hands.

STEP 5: Merge your snow filled hands together and apply more force. Gradually increase the force while rotating your hands.

STEP 6: Once you feel resistance, smooth the surface of your snowball, throw the snowball, with more force, and observe. Compare the effects of different directions of pushes and pulls on the motion of the snowballs. Provide evidence of the effects of balanced and unbalanced forces on the motion of the snowballs.

EXPLANATION

Applying a force to the snowball allows some of the snow to melt. When released, the liquid refreezes, fusing the snowball together. You need a temperature of 32°F for the perfect snowball. The amount of force needed to melt some of your snowball increases the colder the temperature.

WATCH NOW



SCIENCE BACKGROUND

A force is a push or a pull. Pushes and pulls can have different strengths and directions. Pushing or pulling on an object can change the direction of its motion and can start or stop it. When objects touch or collide, they push on one another and can change motion. A bigger push or pull makes things speed up or slow down more quickly. Each force acts on one particular object and has both strength and direction. An object at rest typically has multiple forces acting on it, but they add to give zero net force on the object. Forces that do not sum to zero can cause changes in the object's speed or direction of motion.

I CAN STATEMENTS

- ✓ I can plan and conduct an investigation to compare the effects of 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 | Cause and Effect

3 – Forces and Interactions | Patterns