



POP A BALLOON INSIDE A BALLOON

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

- Magnifying Glass
- Black Balloon
- Clear Balloon

INSTRUCTIONS

STEP 1: Push the black balloon inside the clear balloon. Inflate the black balloon. Tie the black balloon.

STEP 2: Inflate the clear balloon, so the black balloon can move freely inside the clear balloon. Tie the clear balloon.

STEP 3: Using the magnifying glass, focus a beam of light, from the sun, through the clear balloon, to the black balloon, and observe. Describe what happens when you place the balloons in the path of the beam of sunlight. Provide evidence energy was transferred to the black balloon by the beam of sunlight.

EXPLANATION

The black balloon quickly pops, while the transparent balloon stays inflated. The magnifying glass allows you to concentrate a beam of sunlight through the transparent balloon to one spot on the opaque or black balloon, which eventually weakens the rubber, causing the balloon to pop. The black balloon absorbs the beam of sunlight causing the balloon to heat up, weaken, and pop.



SCIENCE BACKGROUND

Light is energy you can see, which travels in a straight line until it hits an object. Once light hits an object it can reflect, refract, or absorb. Reflect mean to bounce off, refract means to bend, and absorb means to take in. Light transfers energy from one location to another. Transparent materials allow most light to pass through. Translucent materials allow some light to pass through. Opaque materials block all light from passing through.

I CAN STATEMENTS

- ✓ I can plan and conduct an investigation to determine the effects of placing objects made of different materials in the path of a beam of light.
- ✓ I can make observations to provide evidence that energy can be transferred from place to place by light.

NEXT GENERATION SCIENCE STANDARDS CONNECTION

1 – Waves: Light and Sound
I Cause and Effect
4 – Energy | Energy and Matter