CLOUD IN A BOTTLE

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

- Isopropyl Alcohol
- Bicycle Pump with Rubber Stopper
- 1 Liter Clear Plastic Bottle

INSTRUCTIONS

STEP 1: Pour enough isopropyl alcohol into the clear plastic bottle to cover the bottom. Swirl the isopropyl alcohol around in the clear plastic bottle.
STEP 2: Attach the pump to the rubber stopper. Attach the rubber stopper to the clear plastic bottle.
STEP 3: Pump the bicycle pump five times. Remove the stopper and observe. How does the cloud in the bottle compare to how clouds form on Earth?

EXPLANATION

When the stopper is removed, the air inside expands and cools, which allows the alcohol molecules to stick together or condense, creating a cloud, in the bottle.

SCIENCE BACKGROUND

Sunlight warms Earth's surface. Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region at a particular time. Clouds form on Earth when warm, moist air rises and cools to the dew point. Water vapor then condenses on tiny particles in the air like smoke and dust, forming a cloud. Meteorologists measure various weather conditions to describe and record the weather and to notice patterns over time.

I CAN STATEMENT

- ✓ I can make observations to determine the effects of sunlight on Earth's surface.

NEXT GENERATION SCIENCE STANDARDS CONNECTION

K – Weather and Climate I Patterns I Cause and Effect