



EXPLODING BABY 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

- Hard Plastic 8oz Baby Bottle
- Rubber Nibble Without Hole
- Alka-Seltzer

INSTRUCTIONS

STEP 1: Fill the hard plastic 8oz baby bottle, half of the way with water. Describe and classify the water by its observable properties.

STEP 2: Add two Alka-Seltzer tablets to the baby bottle and securely attach the collar and rubber nipple, without holes, to the top of the bottle, shake the bottle, and observe. Describe and classify the contents of the bottle by its observable properties.

STEP 3: Carefully and slowly unscrew the collar from the bottle. What happens? Did adding the Alka-Seltzer to the water result in a new substance?

EXPLANATION

When the Alka-Seltzer is added to the water, in the baby bottle, a chemical reaction happens, which creates carbon dioxide gas. The carbon dioxide gas fills the rubber nipple, without a hole, causing the nipple to expand. When the nipple is carefully and slowly removed, some of the gas quickly escapes, forcing the nipple off the bottle and into the air.



SCIENCE BACKGROUND

Matter is anything that has mass and takes up space. Different kinds of matter exist and many of them can be either solid or liquid, depending on temperature. Matter can be described and classified by its observable properties. Measurements of a variety of properties can be used to identify materials. When two or more different substances are mixed, a new substance with different properties may form. This is considered a chemical reaction, which is a change that results in one or more new substances. A physical reaction does not result in a new substance.

I CAN STATEMENT

- ✓ I can plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.
- ✓ I can conduct an investigation to determine whether the mixing of two or more substances results in a new substance.

NEXT GENERATION SCIENCE STANDARDS CONNECTION

2 – Structure and Properties of Matter | Patterns
5 – Structure and Properties of Matter | Cause and Effect