VOLCANO IN A BOTTLE

AGE: PRESCHOOL
SET-UP: 10 MINUTES
ACTIVITY: 15-20 MINUTES

THINGS YOU WILL NEED:
- Small plastic bottle (mini water bottles are great or a small soda bottle)
- Plate or tray to catch the mess (this is also a great experiment to do outside)
- 1 Tablespoon Baking Soda
- ¼ cup Vinegar
- Clear cup for observing the vinegar
- Funnel or spoon

When we do science experiments, we use our “Powers of observation.” These are our 5 senses: eyes for looking, ears for hearing, noses for smelling, tongues for tasting, and hands for touching.

In this experiment, we are using our eyes for looking, ears for listening, noses for smelling, and hands for touching. This is not a tasting experiment.

BAKING SODA
Baking soda is also called sodium bicarbonate. One of the elements in baking soda is Carbon. Carbon is in coal and diamonds, plants and animals. We have carbon in our bodies! Oxygen is also in baking soda. We breathe oxygen from the air. We breathe out carbon dioxide, which is both carbon and oxygen.

- Let’s look at our baking soda. What does it look like?
- Let’s smell our baking soda. What does it smell like?
- Let’s touch our baking soda. What does it feel like?

Now let’s take our plastic bottle. We can use our funnel or a spoon to pour in about 1 Tablespoon of baking soda. Once we have done that, we can set it on our plate/tray.
VINEGAR
For this experiment, we will use about 1/4 cup of vinegar. Vinegar is made up mostly of water. Do you think it looks like water? Does it sound like water when you pour it? Does it smell like water? There is a small amount of something called acetic acid in vinegar. The acid is what makes it smell.

- Let's pour our vinegar into a plastic cup. What does it sound like when we pour it?
- Let's look at our vinegar. What does it look like?
- Let's smell our vinegar. What does it smell like?

Now we pour our vinegar into the bottle with the baking soda. What happens? We can use our powers of observation.

Can you see the bubbles it makes? Those have carbon dioxide in them, carbon and oxygen, which is also in the air we breathe out. Can we feel anything? Hold your hand very close to the bubbles without touching them. What do you feel?

What does it smell like? Does it smell like vinegar?

Extra Experiments!
- This time add a drop of dish soap to the vinegar! Does this change the way the bubbles look, sound, smell or feel?
- Try it in a wider dish, like a small bowl. Do the bubbles act the same, or differently?