

# January 15–Minute STEAM

## Snowstorm in a Jar



### Supplies

Baby oil (you can use vegetable oil as well but the liquid will be yellow)  
White paint  
Alka-Seltzer tablets  
Clear glass jar (we have provided 6oz jars)  
Glitter (optional)

### Instructions

1. Fill up 1/3 of the jar with water (about 2 oz in the provided jar)
2. Add about a teaspoon of white paint in the water and stir to mix. The mixture should look like milk. If necessary add more paint.
3. Fill up the rest of the jar with baby oil (about 4 oz in the provided jar).
4. Add glitter in the mixture if desired (not necessary but it makes the snowstorm prettier).
5. Wait a few minutes to let the paint, water & glitter settle on the bottom of the jar
6. Break up an Alka-Seltzer tablet and drop the broken up pieces one at a time into the jar.
7. Watch the magic happen!

### The Science

Oil and water don't mix. The water molecules are polar, which means they have a small positive charge at one end and a small negative charge at the other end. Therefore, they are attracted to each other like a magnet and form strong bonds. Oil molecules are non-polar, and therefore they are more attracted to each other than water molecules.

Oil is less dense than water. Therefore, the water mixed with paint sinks to the bottom, while the oil remains on top.

When you drop Alka-Seltzer tablets, which contains baking soda, into the water, the reaction between the sodium bicarbonate (baking soda) and citric acid and hydrogen oxide (water) creates carbon dioxide gas. The bubbles filled with carbon dioxide gas push the water and paint mixture upward, but the oil exerts pressure downward and pushes the mixture back down – creating the snow effect.

You can do it more than once! Just let the water and paint mixture settle down again before you add more Alka-Seltzer tablets.