

## Understand the Science

Water and dry ice create smoke when combined together because the warm water heats up the dry ice causing the carbon dioxide gas to turn into a fog mixture that consists of carbon dioxide and water vapor. This is why it is important to add warm water, so it can help create the fog mixture. The fog mixture is encapsulated by the soap mixture. Notice how you can touch and bounce the bubbles with gloves on, but not with your bare hands. This is because the oil on your hands pops the bubble.

## Procedure 30 minutes

### Step 1:

Lay a cotton towel on your workplace



### Step 2:

In the open container add two tablespoons of dish soap and 9 oz of warm water



### Step 3:

Drill a hole into the water bottle and insert the tube into the hole



### Step 4:

Fill the water bottle a quarter of the way with warm water



### Step 5:

Add two to three chunks of dry ice



### Step 6:

Close the cap of the water bottle



## ADULT SUPERVISION REQUIRED

- ★ Remember to use the safety gloves when handling dry ice
- ★ Never add water and dry ice and close the container, make sure it has a way to exit
- ★ The cotton gloves and cotton towel is used to play around with the bubbles

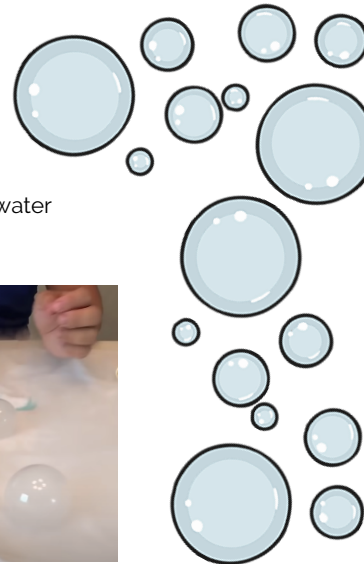


## Materials:

- ☐ Lay a cotton towel on your workplace
- ☐ Clear Vinyl Tubing (1 foot)
- ☐ Cotton Gloves / Cotton Towel
- ☐ Safety Gloves / Oven Mitts
- ☐ 2 Tablespoons of Dish Soap
- ☐ Small open container
- ☐ 9 oz of room temperature water
- ☐ warm water
- ☐ dry ice

### Step 7:

Dip the tube into the soap water and bubbles will form



## A Step FURTHER!

Try adding food coloring to the soap water and then try adding food coloring to the dry ice mixture! Come up with a hypothesis on whether the bubbles will change color or not and explore your hypothesis by testing it out!