**THE WATER CYCLE IN ACTION**

**BACKGROUND**

Let your students discover for themselves what happens in this activity; don’t tell them what they should see ahead of time!

You will explain the following ***after*** they conduct the activity and then think and talk about it:

When warm, moist air that is full of water vapor, meets cold air, the water vapor condenses into droplets we can see. It changes state from a gas into liquid. This is how clouds form. If there are particles in the air for the water to stick to, such as the smoke particles in this activity, clouds can form more quickly.

See [this video](https://www.youtube.com/watch?v=44GH2gs8avo) for a quick explanation of the concepts behind cloud formation and how to guide your **Weather and Sea** activity.

**MATERIALS**

For each group: 1 glass or plastic jar (Mason jars work well), 4 ice cubes on foil or in a baggie, 1 match (teacher discretion!), boiling water (enough to fill jar ¾ full), hot pad or towel for handling hot jar, Student Worksheets, one per student, and pencils or colored pencils for drawing a diagram of the results.

**INSTRUCTIONS**

Have Explore Teams gather materials, one set per Team and then follow along as you demonstrate the steps of the activity in the front of the room, copying what you do.

1. First, pour boiling water into your jar until it is ¾ full.

2. Next, have an adult light a match and drop it into the water in your jar.

3. Finally, place the ice on top of the jar and observe.

4. Ask Explore Teams to turn and talk about their observations and draw in what happened in the jar in their Student Worksheet diagram.

5. Ask for the Science Communicator from each Team to share Team thoughts on what was happening.

6. Now ask students to hold a Team Talk to explain the phenomenon, 1 min per student, and ask Science Communicators to share out to the class.

7. Have students draw a water drop at each state of matter change on their Water Cycle Diagrams, solid to liquid, liquid to gas (vapor), and vapor to liquid.