**Cloud in a Jar Lab**

*S6E3 Students will recognize the significant role of water in earth processes b. Relate various atmospheric conditions to stages of the water cycle.*

*Before you begin*, what are the three things needed to make a cloud?

1.

2.

3.

Clouds form from the process of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ which turns water vapor into \_\_\_\_\_\_\_\_\_\_ by cooling.

**Materials:**

Glass Jar

Warm Water

Ziploc Baggie

Ice

Match

**Procedure:**

1. Get a clean glass jar with nothing in it. Have a group member or your teacher pour hot water into your jar (just a little). DO NOT TOUCH THE BOTTOM OF YOUR JAR as it gets very hot
2. Once the hot water is in your jar, cover it with the lid to keep the humidity from escaping. Answer these questions below about your jar
   1. Write two sentences to what you are observing about your jar: (Color, changes, temperature of the lid, steam) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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* 1. What is humidity? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Your teacher will come around with a match and will light it and drop it into your jar. Once this is done, immediately take your bag of ice and cover the top of your glass jar with the bagged ice. Keep your jar covered with the ice until your teacher tells you to take it off. Observe what is happening and answer the questions below
   1. How has your jar changed now that there was a lit match and ice on top of your jar?

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* 1. Do you see anything forming in your jar? What does it look like? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. Once your teacher tells you, remove the ice in a baggie from the top of your jar and place it into your pan.
   1. What is happening to your jar? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. Clean up your area by carefully emptying your jar and your plastic baggie. Leave the baggie, the lid on top of your empty jar in your pan and wait to be checked off to have a seat.

**Answer these questions when you are done with your lab:**

1. What happened when we cooled the water vapor?
2. What does condensation mean?
3. Why did we need the match in order to make the cloud?
4. What are clouds made up of?