Cloud In A Bottle

TIME	TASK	DESCRIPTION	NEEDS
5 min	**Introduce Session**	• We will review the session	• have agendas available
20 min	**Reading About Cloud**	• **Directions:** We will read a short reading about how clouds are formed with a partner. Read out load and circle the important parts	• Have handout available
15 min	**Quick Writing**	**Directions:** Use the space below to write answers to the questions	
20 min	**Making Clouds**	**Directions:** We will use the next few moments to make clouds. (1) Make a Cloud in a Bottle using rubbing Alcohol Add a small amount of rubbing alcohol, about ¼ and inch. Pump about 8 to 10 pumps of air into the bottle. Pull the stopper out and observe (2) Make a Cloud in a Bottle using water. Add a small amount of rubbing water, about ¼ and inch. Pump about 8 to 10 pumps of air into the bottle. Pull the stopper out and observe	• Have handout available
5 min	**Practice Explanations**	**Directions:** Use the space below to write your practice explanations.	
10 min	**Video Explanations**	Record your explanation	

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Reading About Clouds

Directions: We will read a short reading about how clouds are formed with a partner. Read out load and circle the important parts

Clouds form when moist, ***warm*** *rising aircools and expands in the atmosphere. The water vapor in* ***the air condenses to form tiny water*** *droplets which are the basis of clouds.*

Why do I care? Clouds are important in that they can form precipitation and bring rain to crops and plants. They also shade the earth, affecting the temperature and keeping sunlight from directly hitting plants.

Clouds can take on all sorts of shapes and sizes, ranging from thin wispy clouds (cirrus) to large, dark menacing clouds (cumulonimbus). While there are several factors that influence and affect the formation of clouds, the sun plays a major role in producing clouds.

To help understand basic cloud formation, let's take a look at a field at sunrise. In the morning, the field is relatively cool. The sun begins to heat up the field, and throughout the day, the field becomes warmer and warmer. Certain areas of the field may begin to heat up more quickly than others due to the terrain or surrounding conditions (for example, bare soil heats up more quickly than vegetation). When this happens, a thermal (also known as an updraft) can form. A thermal can be thought of as a rising "blob" of warm air due to unequal heating of the earth's surface. When the thermal forms at the surface, it is warmer than the surrounding air. Warm air has a tendency to rise while cold air sinks, and since the thermal is warmer than the air around it, the air in the thermal will rise. As it rises, it will begin to expand and cool, and will continue to do so until its temperature is the same as the surrounding air temperature

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Quick Writing

Directions: Use the space below to write answers to the questions

How does the hot air and cold air impact how clouds form?

What are the clouds made of solids, liquids, or gases?

Compare how the clouds were formed with water and alcohol?

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Making Clouds

Directions: We will use the next few moments to make clouds.

(1) Make a Cloud in a Bottle using rubbing Alcohol

Add a small amount of rubbing alcohol, about ¼ and inch. Pump about 8 to 10 pumps of air into the bottle. Pull the stopper out and observe

(2) Make a Cloud in a Bottle using water.

Add a small amount of rubbing water, about ¼ and inch. Pump about 8 to 10 pumps of air into the bottle. Pull the stopper out and observe

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Practice Explanations

Directions: Use the space below to write your practice explanations.

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