Water and Clouds in the Atmosphere

Earth Science Mr. Traeger

Name: _____ Period: _____ Date: _____

Water comes in many forms. Understanding these different forms will help us to understand our weather more thoroughly.

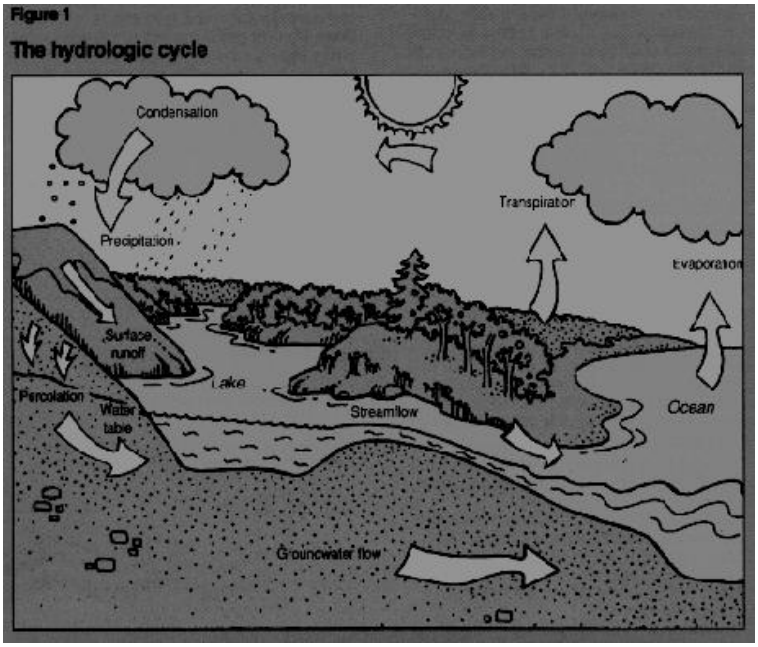
Part 1: Water Basics

1. Draw the molecular structure of water.

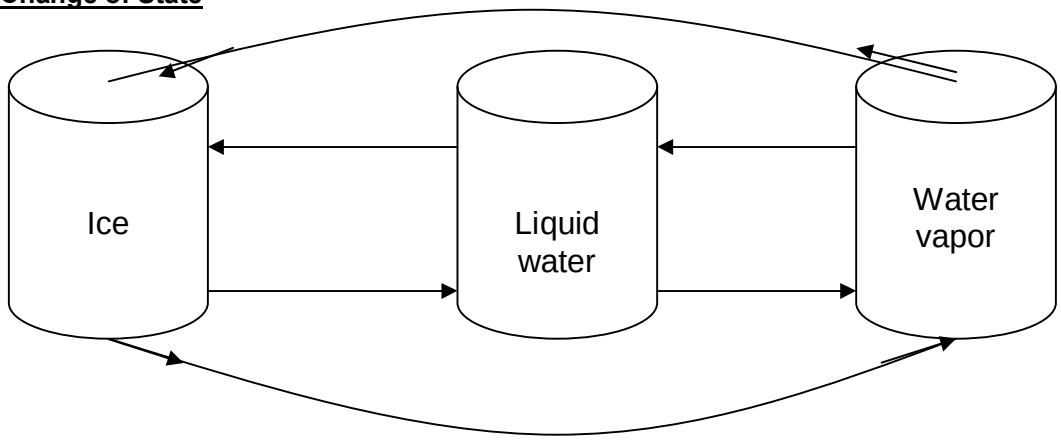
2. Name all of the forms that you have seen water exist in.

Part 2: The Water Cycle

1. Describe a possible year in the life of a water molecule as seen in the graphic to the right.



Part 3: Change of State



1. Fill in the diagram above as Mr. T does it on the board.

2. In which direction does energy go into the beakers? Left or Right? Draw an arrow and label.

3. In which direction does energy go out of the beakers? Left or Right? Draw an arrow and label.

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Part 4: Cloud Formation and Cloud Types

1. What is relative humidity?

2. What is specific humidity?

3. Clouds will form when the _____ and _____ _____ are the same.

4. What are condensation nuclei? Why are they so important for cloud formation?

5. Explain the cloud-in-a-bottle demo that was done in class. How did we get a cloud to form in the bottle?

6. Describe the rain shadow effect for cloud and precipitation formation

7. Define the following word roots for clouds.

Word Root	Meaning or Definition
Stratus and/or strato-	
Cumulus and/or cumulo-	
Cirrus and/or cirro-	
Alto-	
Nimbus and/or nimbo-	

8. Fill in the following chart concerning cloud types.

High Clouds		
Cloud Name	**Height Range (meters)**	**Description and/or Drawing**
Cirrus		
Cirrostratus		
Cirrocumulus		
Middle Clouds		
Cloud Name	**Height Range (meters)**	**Description and/or Drawing**
Altostratus		
Altocumulus		
Low Clouds		
Cloud Name	**Height Range (meters)**	**Description and/or Drawing**
Stratus		
Nimbostratus		
Stratocumulus		
Clouds with Vertical Development		
Cloud Name	**Height Range (meters)**	**Description and/or Drawing**
Cumulus		
Cumulonimbus		