Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Ms. Williams and Ms. Narracci Science 693

The Water Cycle and Precipitation

**Do Now:** Listen to the Water Cycle Rap

**“The Water Cycle Rap”**

(I rise to the sky from the sea below…)

(Then down to the ground as rain or snow…)

Verse I

I represent the movement of water—that’s my purpose

Whether on, above, or below the earth’s surface

In a continuous cycle, my work’s never done

’Cause I’m driven by energy from the sun

I travel through the sea, through the air, through the ground

You could say that water really gets around

But in fact most water’s just chillin’ in the oceans

Only a small fraction is really in motion at any given time

But yo—that’s the way it goes

When we’re studying the voyages of H2O

In the cycle water changes states at various places

The three states being ice, liquid, and water vapor

But this cycle strays from the norm

‘Cause through the process, water still keeps the same structural form

While other cycles involve chemical change

Water may change states, but its structure stays the same

Chorus

I rise to the sky from the sea below

Then down to the ground as rain or snow

I keep it moving, moving, ’cause I’m the water cycle

Moving, moving, ’cause I’m the water cycle

Verse II

So when water transforms from liquid to gas

And rises up into the atmosphere, that’s **evaporation**

A process made possible by energy from the sun

Also known as solar radiation

And when this water vapor in the sky reforms

Into liquid water droplets, that’s **condensation**

And when this water falls back down to the earth

As rain, snow, hail, or sleet, that’s **precipitation**

But plants have their own type of evaporation

Through their stomata, which is called transpiration

So collectively the term used for transpiration

Plus all other evaporation is evapotranspiration

Two more terms to add to your collection:

The movement of water through the air is advection

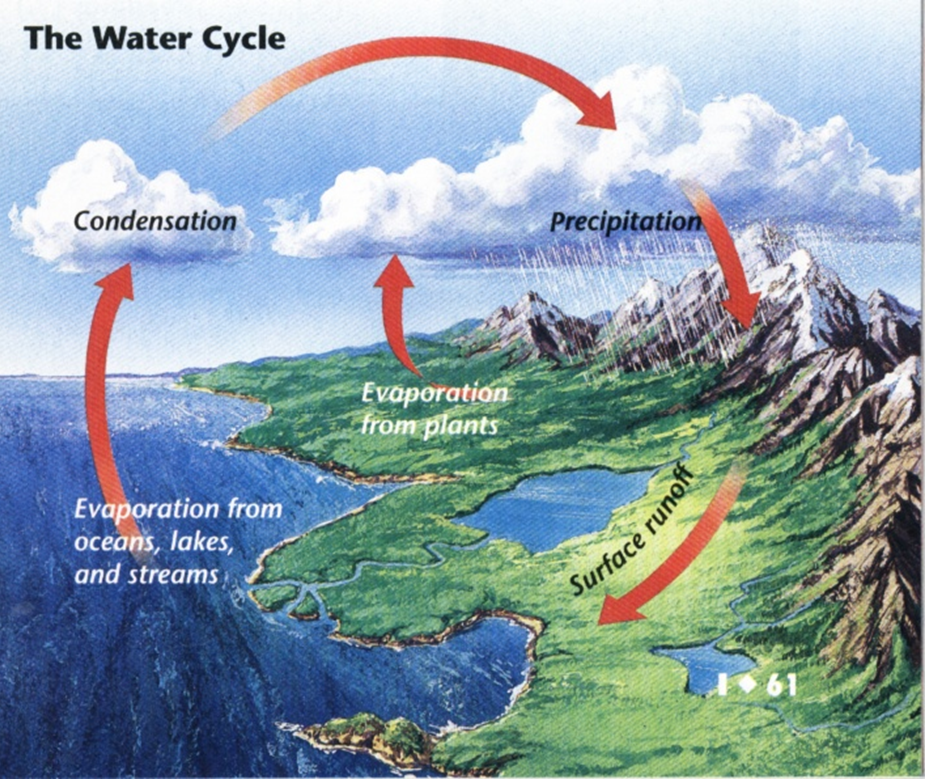
And speaking of keeping it moving, understand

That **runoff** is water flowing across the land

Chorus

**You can find this rap at:**

**http://www.youtube.com/watch?v=i3NeMVBcXX**

****Below is a diagram of the water cycle. Today we will be focusing on **precipitation**!

Directions: Throughout the class notes will be blanks, be sure to fill in these blanks while we are discussing the topic as a class!

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is water falling from the clouds.
* In the air, water vapor condenses around tiny particles, like dust, forming cloud droplets and clouds.
* As these droplets combined and become larger they begin to fall to the Earth.

The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ types of precipitation are:

1. **\_\_\_\_\_\_\_\_\_\_\_\_\_** occurs when drops of water fall to Earth in \_\_\_\_\_\_\_\_\_\_ freezing temperatures.

**Draw Diagram:**

1. **\_\_\_\_\_\_\_\_\_\_\_\_\_** occurs when the air temperature is so cold that water vapor changes directly to a solid.

**Draw Diagram:**

1. **\_\_\_\_\_\_\_\_\_\_\_\_\_** occurs when rain passes through a layer of freezing air near Earth’s surface forming ice pellets.

**Draw Diagram:**

1. **\_\_\_\_\_\_\_\_\_\_\_\_\_** occurs in cumulonimbus clouds of a thunderstorm when water freezes. Hail grows as it is tossed up and down within the cloud. It can be as large as a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Draw Diagram:**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_

Ms. Williams and Ms. Narracci Science 693

Homework

**Directions**: For homework, you need to write a paragraph answering the question “How does precipitation occur and what determines the type of precipitation that falls to the Earth?” Below you have the structure of your paragraph. All you have to do is fill in the details using your packet.

All of the water on Earth goes through a continuous cycle, called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. One major aspect of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is when water \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Precipitation is formed when \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. There are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ types of precipitation. They are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Rain is when \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Snow is when \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Sleet occurs when \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Finally, hail occurs \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the most damaging form of precipitation. It can become as large as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_!