Water Cycle/Atmosphere Test
Study Guide

Name Key
Date _____ Hour _____

Learning Goals

I can…

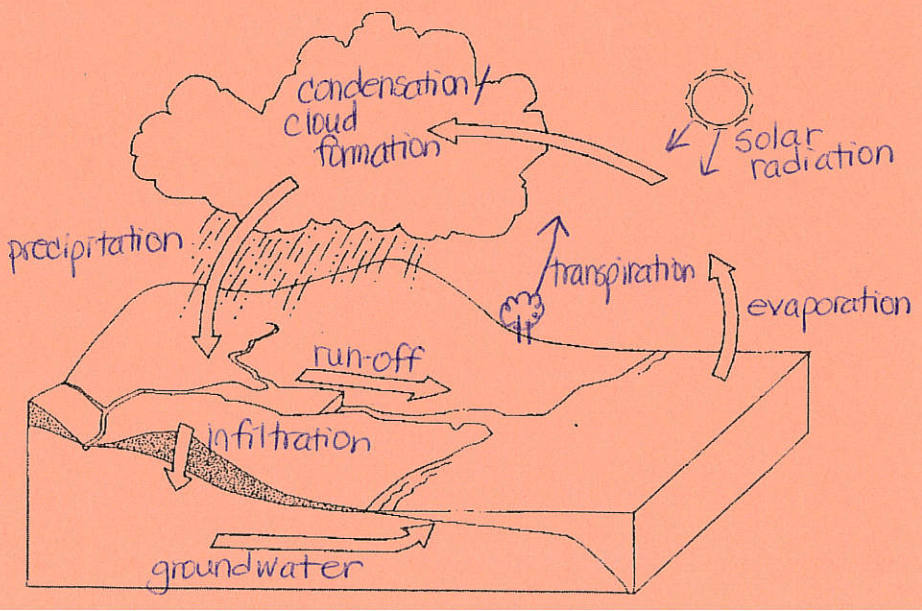
- describe the mixture of gases in the atmosphere.
- describe the composition of the atmosphere at different elevations and tell how they are alike and different.
- I can explain how the *water cycle* works, and how *evaporation*, *condensation* and *precipitation* occur within the cycle.
- I can show how *solar radiation* warms the Earth and drives the atmospheric processes of the water cycle.
- I can explain what roles *cloud formation*, *infiltration*, *surface runoff, groundwater* and *absorption* play in the water cycle.
- I can explain what a *watershed* is, and describe the flow of water between its different components (*lakes, streams, rivers, wetlands* and *groundwater*).

Vocabulary (in addition to terms in *italics* above)

atmosphere	oxygen	air pressure
water vapor	carbon dioxide	air pollution
nitrogen	trace gases	mouth (of a river)
headwaters	tributary	transpiration
aquifer		

Review Questions (*Use in conjunction with the Atmosphere Quiz Study Guide*)

1. Label the parts of the water cycle below using the terms: solar radiation, evaporation, transpiration, condensation, cloud formation, precipitation, runoff, infiltration, groundwater



2. How does the sun's energy heat the earth (and water)?

Solar radiation enters the atmosphere and interacts with molecules of air and molecules on the ground/water, creating heat.

3. How does this energy drive evaporation?

Water molecules in oceans & lakes gain energy and become water vapor (gas) that rises up into the atmosphere.

4. Why does condensation take place after evaporation?

Water vapor that evaporated cools in the atmosphere. Molecules loose energy and become liquid again.

5. What force drives precipitation (falling down)?

Gravity

6. What happens to water that has precipitated from the sky once it reaches the ground?

It can: infiltrate/soak in (absorb) into the ground and become groundwater, or land on plants/ground and be evaporated/transpired, or it can move along the surface as runoff into streams, rivers, lakes, etc.

7. What are the parts of a watershed?

land, rivers, streams, lakes, wetlands, farmland, cities, roads, parking lots (etc.); also groundwater

8. How are the borders of a watershed determined?

By elevation - ridges & mountains or hills divide them.

9. In what direction do all bodies of flowing water flow? Downhill!

Why is this important to all who live in/on a watershed?

Toxins or pollutants introduced into a river or stream or groundwater upstream can affect everything downstream.

10. How can human activities on the land, water or air affect the quality of the watershed?

Pollution - dumping, fertilizers & pesticides from farm fields pollute runoff that enters streams & rivers, Air pollution causes acid rain which falls onto watersheds

11. What is the name of the watershed in which we reside, where is its headwaters, and where is its mouth? What major body of water does it feed into?

Grand River Watershed. Headwaters in Hillsdale County, south of Jackson. Mouth in Grand Haven. Flows in to the ~~Grand~~ Lake Michigan.