

Name _____

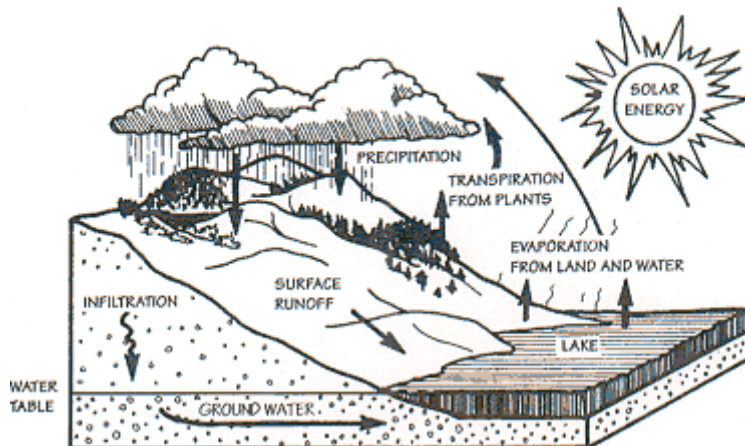
Modeling the Water Cycle

Background Information: Water is essential for life on Earth. It is recycled through the WATER or HYDROLOGIC CYCLE, which involves the following processes:

- h** EVAPORATION – the changing of water from a liquid to a gas
- h** CONDENSATION – the changing of water from a gas to a liquid
- h** SUBLIMATION – the changing of water from solid to a gas
- h** PRECIPITATION – the process by which water molecules condense to form drops heavy enough to fall to the earth’s surface
- h** TRANSPIRATION – the process by which water is carried through plants from roots to leaves, where it changes to vapor and is released to the atmosphere
- h** SURFACE RUNOFF – the flowing of water over land from higher to lower ground
- h** INFILTRATION – the process of water filling in the porous spaces of soil
- h** PERCOLATION – groundwater moving into the saturated zone below the earth’s surface

MODELS are often used to think about processes that happen too slowly, too quickly, or on too small a scale to observe directly, or that are too large to be changed deliberately, or that are potentially dangerous.

Water Cycle



Adapted from: http://www.ucar.edu/learn/1_1_2_4t.htm

Questions & Conclusions:

1. Which part of the investigation simulated *evaporation*?
2. Which part simulated *condensation*?
3. Which part simulated *precipitation*?
4. What is the energy source and what does it represent?
5. What processes of the water cycle are NOT represented?
6. How could we demonstrate *transpiration* in this investigation?
7. Would *condensation* occur in the box without the ice? **Explain your answer.**
8. After observing this investigation, explain why water is considered a renewable resource. (Use a dictionary to look up renewable if necessary.)
9. The system you observed is a model of the way the actual water cycle works. Why might scientists use a model like this in their research into the water cycle in the real world?
10. What are some reasons that using such a model might be a problem?