

**Lesson – Water Cycle**

THE FOLLOWING VIDEO HAS BEEN APPROVED FOR  
**ALL AUDIENCES**  
BY THE EARTH SCIENCE TEACHERS ASSOCIATION OF AMERICA, INC.  
THE VIDEO HAS BEEN RATED

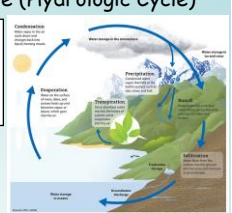
<b>1</b>	INTELLIGENT UNDER 15 REQUIRES TEACHER ASSISTANCE
----------	--

STRONG EARTH SCIENCE LANGUAGE, DETAILED DIAGRAMS, AND SUPER AWESOMENESS.

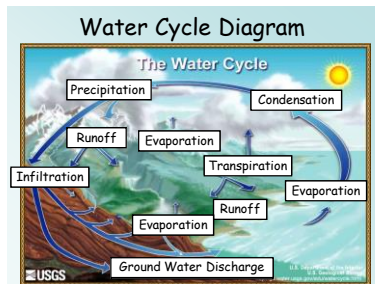
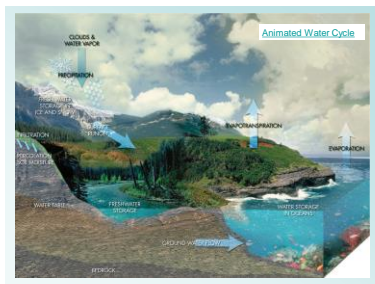
- I can label the water cycle
- I can state the energy needed to fuel the water cycle
- I can contrast the differences between runoff & infiltration
- I understand the water budget

**Water Cycle (Hydrologic Cycle)**

- Model used to show the movement & phase changes of water




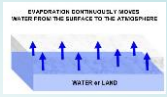
The diagram illustrates the hydrologic cycle with various stages: Evaporation (water from oceans and lakes), Transpiration (water from plants), Condensation (water vapor forming clouds), Precipitation (rain or snow falling), Infiltration (water seeping into the ground), and Runoff (water flowing over the surface to the ocean or lakes). It also shows groundwater discharge back into the surface water bodies.



- I can label the water cycle
- I can state the energy needed to fuel the water cycle
- I can contrast the differences between runoff & infiltration
- I understand the water budget

**Open ESRT to Pg 1** **Energy Needed**

- About 2260 joules/gram are needed to change liquid water into water vapor.
- Since energy is used the vapor becomes cooler
- The same energy is needed for condensation

- I can label the water cycle
- I can state the energy needed to fuel the water cycle
- I can contrast the differences between runoff & infiltration
- I understand the water budget

**Runoff**

- Water that flows over the land



### Infiltration (seep)

- Gravity pulls water into the ground

Poor Infiltration →



### Water Retention

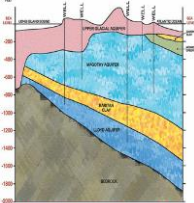
- Precipitation can be stored or retained on land as ice & snow or on plants & trees



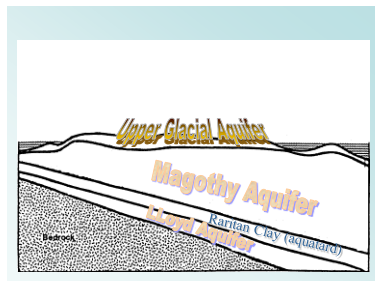
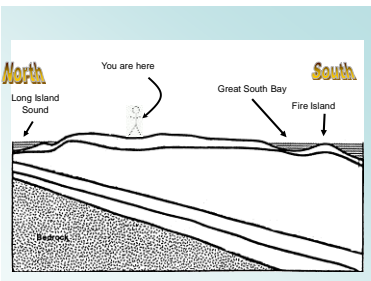
- I can label the water cycle
- I can state the energy needed to fuel the water cycle
- I can contrast the differences between runoff & infiltration
- I understand the water budget

### Long Island's Water

On Long Island, the prime source of water supply is the vast groundwater aquifer. More than 1,000 wells serve the area's community water supply systems, tapping one of the nation's most critical sole-source aquifers. Three major water-bearing segments provide 375 million gallons of water a day.

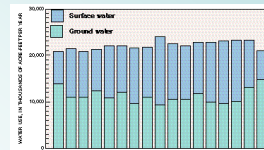


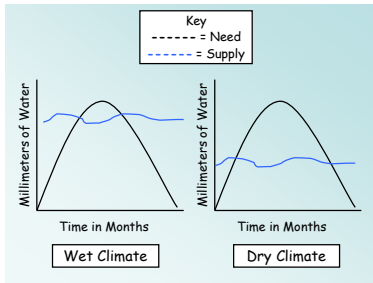
Long Island's aquifers are a natural phenomenon not found in many places. Precipitation travels for centuries through hundreds of feet of densely packed sand and gravel in a natural filtration process that cleanses the water.



### Water Budget

- Interface (boundary) between the zone of saturation (filled with water) & the zone of aeration (partially filled with water)





- I can label the water cycle
- I can state the energy needed to fuel the water cycle
- I can contrast the differences between runoff & infiltration
- I understand the water budget