deSTEMber

SCIENCE ★ TECHNOLOGY ★ ENGINEERING ★ MATH

PRESENTED BY: girlstart

Water Cycle

Fog, water, rain! Create your own water cycle in a plastic bag and observe the steps of evaporation, condensation and precipitation.

TEKS:

4.8B Earth and space. The student knows that there are recognizable patterns in the natural world and among the Sun, Earth, and Moon system. The student is expected to: describe and illustrate the continuous movement of water above and on the surface of Earth through the water cycle and explain the role of the Sun as a major source of energy in this process.

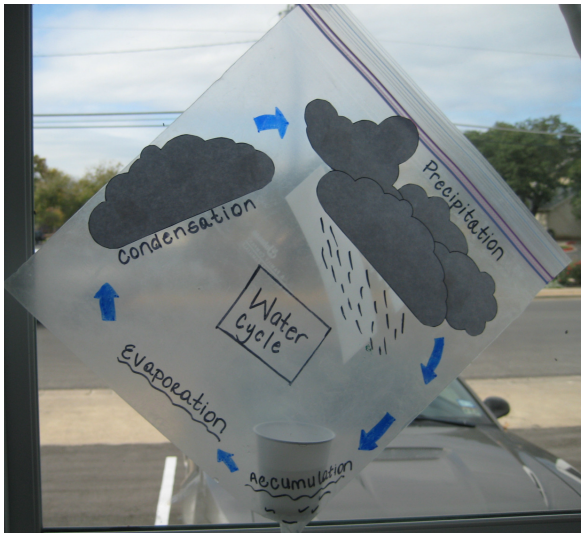
Materials:

- Food coloring
- Gallon size Ziploc bag
- Permanent marker
- Small clear, plastic cup
- Tape
- Water

How To

1. Fill clear, plastic cup half way with water. Put 1 or 2 drops of food coloring in the water and stir.
2. Mark with a permanent marker where the water level is.
3. Draw arrows going around the outside of the bag to describe the water cycle. Begin with evaporation starting at one bottom corner and going to the opposite top corner. Condensation is at the top corner. Precipitation then goes from the top corner back down to the bottom corner to complete the cycle. (See picture on page 2)
4. Place the cup carefully in the bottom corner that you started your diagram at. Be sure not to spill any water!
5. Seal your bag, making sure to leave some air in the bag to represent the air in our atmosphere.
6. Carefully tape the top corner of your bag to a sunny window so that the cup is nested upright in the bottom.
7. Leave your bag hanging and watch the water cycle take place throughout the day.
8. The next day, observe what has happened to the water in the bag and the water level in the cup.

Water Cycle



Why Does it Work?

The water from the cup represents a body of water (river, ocean, lake, etc.) and evaporates into the bag due to the heat from the sun. Evaporation is the process of water converting to vapor, which then collects to form clouds during condensation. This is represented by the water droplets on our plastic bag. The droplets then drip down the side of the bag and collect at the bottom due to gravity and the weight of the droplets. This represents precipitation, which can be in the form of rain, snow, hail, etc. The water will then evaporate again to continue the cycle.

Career Connection:

Meteorologists study the Earth's atmosphere by observing temperature, air pressure, water vapor, and their interactions and changes over time. They use simulations to help them predict the weather and to understand weather patterns so they can piece together climatic schemes, or focus on more complex weather such as hurricanes, tornados, etc. Meteorologists need an in depth knowledge of physics, geology, chemistry, and other subdisciplines of atmospheric sciences including climatology, hydrology, and even oceanography. These scientists are important to the fields of energy production, transportation, agriculture, and more!

Resources: http://media-cache-ec0.pinimg.com/originals/57/d0/12/57d012bce3d2b5fb45007c60b886ee1f.jpg
http://celfeducation.org/documents/WaterCycleBag.pdf

