

SIMULATING THE WATER CYCLE

Name _____ Block _____

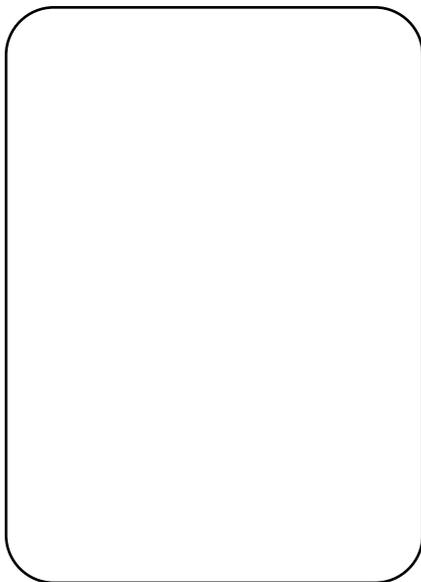
Purpose: To simulate and observe the water cycle

Materials: large wide-mouth jar, small beaker, salt, sand, small paper cup, plastic wrap, large rubber band, small rock, spoon

Procedure:

1. Stir salt into the small beaker filled with water until no more salt will dissolve. Pour a one centimeter deep layer of the salt water into the large-mouthed jar.
2. Place a paper cup half filled with sand in the center of the jar.
3. Loosely cover the jar's mouth. Seal the wrap around the jar's side using a rubber band.
4. Place a small rock or weight on the plastic wrap directly over the paper cup.
5. Place the jar in direct sunlight. (Or use a bright light or sun lamp.)
6. After several hours, observe. Record your observations.

Observations:



Sketch the jar and what you observe.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

SUMMARY QUESTIONS:

1. What is the purpose of sealing the jar?
What does this represent?
2. What does the jar represent?
3. What does the salt water represent?
4. What does the paper cup of sand represent?
5. What do you notice about the taste of the water on the underside of the plastic wrap? (Carefully open the jar to taste.)
6. Where does this water go in the jar? What does this represent?
7. What processes of the water cycle can you identify occurring in the jar?
8. Draw arrows and label in the jar sketch you made.
9. Define Water cycle:
10. What percentage of the Earth's water cycle is:
Salt Water _____% Fresh Water _____%
11. Of the Earth's fresh water, what percentage is:
Ice Caps & Glaciers _____% Surface or Groundwater _____%
Rivers, Lakes, & Streams _____% Atmosphere _____%
12. The first basic step of the water cycle involves the heat energy of the sun. This energy causes the water on the surface of the Earth to change to vapor (gas.) What is this process called?
Where does this process take place on Earth?
13. The second basic step of the Water Cycle involves the process by which the vapor (gas) changes back into a liquid.
What is this process called?
Where does this process take place on Earth?
14. In the third basic step of the Water Cycle, the water returns to the Earth in the form of rain, snow, sleet and hail.
What is this process called?
Where does this process take place on Earth?
15. After the water falls to the Earth, what two routes does the water take?
(a) (b)
16. What three ways takes the water back into the air?
(a) (b) (c)