Name _____ Date _____ Period _____

Introduction to the Hydrosphere

Activity 1 – Disappearing Water

Purpose – To observe a basic characteristic of water

Materials – 2 small grid papers, dropper, water, heat lamp, and ring stand

Procedures

1. Use the dropper to put 1 drop of water in the center of each grid paper. Wait about 30 seconds until the water is absorbed into the paper then use a pencil to outline the surface area that became wet from the water.
2. Measure how many squares (**surface area**) are wet from the drop of water and record in the data table below under the "Original" column. Partial squares count as a full square.
3. Place one of the grid papers in a cupboard in the front of the lab station, and the other place under the heat lamp.
4. Record the change in wet squares (**surface area**) every minute.
5. Continue recording data until the data table is complete.
6. Use the data you gathered to create a **line graph** to compare the changes in wet squares (surface area) for each graph paper.

Number of Squares Wet (Surface Area)						
	Original (before moving to heat lamp and dark area)	**1 minute**	**2 minutes**	**3 minutes**	**4 minutes**	**5 minutes**
Wet Squares **Heat Lamp**						
Wet Squares **Front Cupboard**						

Graph – Use the information from the data table to create a line graph to display the observation results

Heat Lamp Color =

Inside Cupboard Color =

Change in Surface Area
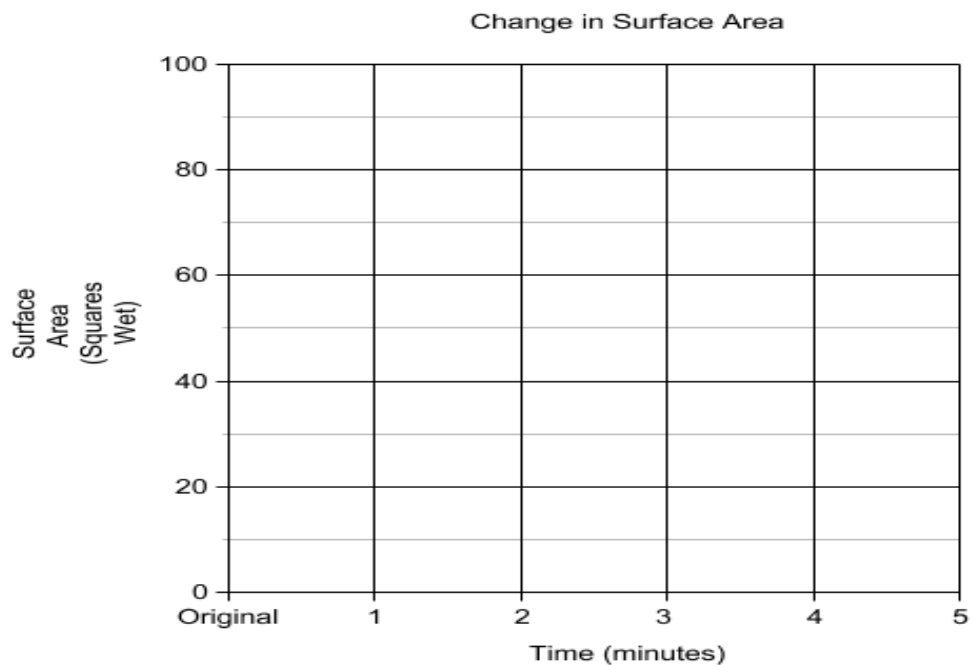
Analysis Questions

1. What is the independent variable in this observation?

2. What is the dependent variable in this observation?

3. As you placed the drop of water on each of the grid papers, what did you observe the water do on each grid paper?

4. What happened to the amount of wet squares on both grid papers that were tested as the minutes passed?

5. Using the data table below, create a new data table that shows the difference in wet spots (surface area) after each minute.

	Difference after 1 min. from original	Difference after 2 min. from original	Difference after 3 min. from original	Difference after 4 min. from original	Difference after 5 min. from original
Heat Lamp Grid					
Dark Area Grid					

6. Which area (heat lamp or dark area) had the smallest change in wet squares during the 5 minute observation? Use evidence from the data table above to explain your answer.

7. Which area (heat lamp or dark area) had the largest change in wet squares during the 5 minute observations? Use evidence from the data table above to explain your answer.

8. Using the graph created, how did the surface area change for the heat lamp grid paper?

9. Using the graph created, how did the surface area change for the dark area grid paper?

10. What do you think caused the 2 grid papers to have different results?

Activity 2 – Mystery Words!

Directions – Use the amazing textbook of knowledge pgs. **270-271** & **280-289** to identify the mystery word that matches each of the definitions.

Mystery Word	Definition
	The continuous movement of water from one source to another
	The downward movement of water through pores and other spaces in soil due to gravity
	The movement of water into the ground due to pull of gravity
	Water that flows across the land and collects in rivers, streams, and eventually the ocean
	Water located within rocks below Earth's surface
	Upper zone area where groundwater is located, usually is not completely filled with water
	Lower zone where ground water is located, where spaces between rock particles are filled with water
	An underground boundary where zone of aeration and zone of saturation meet
	A rock layer that allows the flow of ground water

	The amount of open space between individual rock particles
	A rock's ability to let water pass through it
	The ground surface where water enters an aquifer.
	If the water table reaches the surface, water flows out of the ground at a _____
	Springs that form over where cracks naturally occur in the cap rock and the pressurized water in the aquifer flows through the cracks to the surface
	Water that drips from a crack in a cave's ceiling leaves behind deposits of calcium carbonate called _____
	Type of pollution that comes from a particular point, such as a sewer pipe
	Type of pollution that is difficult to control, because it does not come from a single source
	A large underground tank that collects and cleans waste from water from a household