

Name _____ Date _____ Period _____

INTRODUCTION TO HUMIDITY

Activity I – How Much Can it Hold

Materials:

sponge, water, pie tin, beaker, teaspoon, calculator

Procedures:

1. Squeeze the sponge, making sure there is not water in it, keeping in mind that the goal is not to destroy the sponge.
2. The sponge is a model of the air around us. As a team, decide who is going to hold the sponge above the pie tin, who will add the teaspoons of water, and who will keep tally marks of how many teaspoons are added to the sponge before it begins to drip, who will write the tally marks on the other three team member's papers.
3. The team member in charge of the sponge, needs to hold it comfortably above the pie tin to catch falling water
4. The team member in charge of adding water will add 1 teaspoon of water at a time to the sponge until water begins dripping from the sponge.
5. The team member in charge of tally marks, use the table below to record how many teaspoons are added to the sponge.

TALLY MARKS – HOW MANY TEASPOONS

6. **Stop** adding water as soon as drips of water fall from the sponge. This means the sponge is saturated and cannot hold any more water.
7. **If the sponge is a model for the air around us, what do you think the dripping water represents?**
8. How many spoonfuls of water did it take for your sponge to be 100% saturated? (This means it cannot hold any more water and it is ready to drip.) _____ spoonfuls
9. Use the following calculation to determine the percent saturation for the sponge at each stage (number of spoonfuls) of adding water.

$$\# \text{ of spoonfuls} \div \text{total} \# \text{ of spoonfuls for saturation} \times 100\% = \text{percent saturation} (\%)$$

Example calculation: If the sponge was saturated with 15 spoonfuls of water, for 9 spoonfuls, the calculation is $9 \div 15 \times 100\% = 60\%$ saturation.

Teaspoons of water	% Saturation	Teaspoons of water	% Saturation	Teaspoons of water	% Saturation
1		5		9	
2		6		10	
3		7		11	
4		8		12	

Activity 2- Water in the Air

Use the amazing textbook of knowledge **pages 422 – 427** to answer the following questions.

1. What is weather?
2. What is humidity?
3. What is relative humidity?
4. Explain the difference between humidity and relative humidity.
5. How does temperature of the air affect how much water vapor it can hold?
6. What is condensation?
7. How does the water cycle contribute to condensation?
8. What is dew point?
9. What is the relationship between condensation and dew point?
10. What is a cloud?
11. How do cumulus clouds form?
12. When cumulus clouds get larger and produce thunderstorms, what kind of cloud is created?
13. How are stratus clouds form?
14. What is a nimbostratus cloud?
15. What type of cloud is fog?
16. How are cirrus clouds formed?
17. How are clouds classified?