WATER USE/WASTE

Name_____**Blk**_____

Obj State the percentage of water wasted throughout the world. Briefly describe measures that can be taken to reduce water losses through irrigation, industry, and home use.
Obj Describe the pieces that contribute to a picture of sustainable water use.

PURPOSE AND BACKGROUND

Most people in the United States can find a way to use less water. Sometimes this requires doing something that is not as easy, fast, or comfortable as we are used to doing. Each person has to decide what his or her water conservation ethic will be. In this activity, you will make some decisions about your own water use and check the results of your decisions. Give a description of problems surrounding water use AND waste. Use your textbook to find your information.

MATERIALS AND EQUIPMENT USED

Gallon container Toothbrush Toothpaste Stopwatch or Cellphone with Timer

PROCEDURE

1. Turn on your bathroom faucet as if you are going to brush your teeth. Time how long it takes to collect 1 gallon of water. Use minutes and seconds as your unit measurements. Your cell phone should work well as a stopwatch. Keep it away from the running water.

2. Brush your teeth at a sink with the water running continuously for a 'normal' amount of time. Time how long the water is running while you to brush your teeth.

3. Repeat this procedure, BUT only run the water when absolutely necessary. Carefully time only when the water is running.

4. Calculate the rate in gallons per minute of your faucet. Calculate both how much water you used with the water running and when you used it intermittently.

RESULTS

Time to collect 1 gallon water _____

Time to brush your teeth with (running water) _____

Time to brush your teeth with (intermittent water) _____

Create a table for your data in your lab notebook and provide space to collect similar data from the rest of the class (say 10 students.) Find the average amount of water used for each scenario.

LAB CALCULATIONS Discuss your results, and make sure that you address the following questions/calculations:

1. Calculate the rate in gallons per minute of your faucet. Rate in gal/min _____

Calculate both how much water you used with the water running and when you used it intermittently.

Running water_____gal Conserving water_____gal

2. Create a table for your data and provide space to collect similar data from the rest of the class (5 students.) Find the average amount of water used for each scenario.

NAME	Running water use (gal)	Conserving water use (gal)
AVERAGE USE (gal)		

ANALYSIS

1. What was the percent difference in the two methods of brushing teeth (use the averages to determine this)?

2. How much variance is there in the amount of water people used in one day?

3. Why do you think the amount varies?

4. Do you think the numbers each person calculated for the total represent an accurate number for the total amount of water used? Why or why not?

5. Do you think you could lower the amount of water you use? How? Why?

6. What would the economic savings be for YOUR family in a year?

CONCLUSION

Conclude this lab with a discussion of the following question. Be creative yet realistic.

What types of programs could the government provide to encourage this type of savings?

SUGGESTIONS FOR FURTHER INVESTIGATION

What changes would you make to this lab to advance your studies on this subject matter?