

# Measurement

## January 20– 23, 2014

Measurement, Inquiry 2

# Bell Work, Monday, Jan 20, 2014

**1. Identify the unit that would be most appropriate for expressing the mass of a penny.**

- |                |               |              |
|----------------|---------------|--------------|
| a. liter       | c. kilogram   | e. kilogram  |
| <b>b. gram</b> | d. milliliter | f. kiloliter |

**2. Identify the unit that would be most appropriate for expressing the mass of a car**

- |                     |               |
|---------------------|---------------|
| a. micrograms       | c. grams      |
| <b>b. kilograms</b> | d. kiloliters |

**3. Identify the unit that would be most appropriate for expressing the volume of a pitcher of ice tea?**

- |                 |               |
|-----------------|---------------|
| <b>a. liter</b> | c. milligrams |
| b. milliliter   | d. microliter |

**4. Identify the unit that would be most appropriate for expressing the volume of two drops of water?**

- |                      |               |
|----------------------|---------------|
| <b>a. milliliter</b> | c. milligrams |
| b. liter             | d. microliter |

# Bell Work, Monday, Jan 20

## 5. Complete the following:

1 kilogram (kg) = 1000 grams (g)

1 gram = 1000 milligrams (mg)

1 kiloliters (kL) = 1000 liters(L)

1 liters= 1000 milliliters (mL)

## 6. 0.25 g is equivalent to

a. 250 kg.      c. 250 mg.

b. 0.025 kg.      d. 0.025 mg.

**B→S = bigger #,**

**S→B = smaller #**

           =     

## 7. 1.06 L of water is equivalent to

a. 0.001 06 mL.      c. 1060 mL.

b. 106 mL.      d. 10.6 mL.

# Bell Work, Tuesday, Jan 21

**1. Which variable is the “I change” variable?**

- a. The independent variable
- b. The dependent variable
- c. All of the above
- d. None of the above

**2. A judgment based on data gathered in an experiment is**

- a. a skill.
- b. a conclusion.
- c. a hypothesis.
- d. an observation.

**3. A forecast of possible or future events is a/an**

- a. analysis.
- b. prediction.
- c. hypothesis.
- d. observation.

**4. The ability to draw from previous knowledge and experience to make an explanation is**

- a. a problem
- b. inductive reasoning
- c. a reasonable explanation
- d. processing

## Bell Work, **Tuesday, Jan 21**

**5. Something occurring in nature experienced through our senses to obtain information is**

- a. asking questions
- c. defining a problem
- b. inductive reasoning
- d. a natural phenomenon

**6. A statement that can be tested experimentally is a**

- a. variable.
- c. generalization.
- b. model.
- d. hypothesis.

# Bell Work, Wednesday, Jan 22 (6 ques)

## 1. In a controlled experiment

- a. one variable is fixed while all others are changed.
- b. results are obtained by computer models.
- c. one variable is changed while all others remain fixed.
- d. None of the above.
- e. the outcome is controlled.

## 2. The experimental group is

- a. the part of an experiment that includes the dependent variable
- b. the part of an experiment that has an independent variable.
- c. the part of an experiment that is deliberately changed.
- d. all the above.
- e. none of the above.

## 3. Variables are

- a. conditions that do not change during an experiment
- b. conditions that do change during an experiment
- c. conditions that include the control group.



# Bell Work, Wednesday, Jan 22

## 4. What are experimental controls, also called experimental constants or the control group?

- a. These are conditions that do change during an experiment.
- b. These are conditions that include the independent variable
- c. These are conditions that do not change during an experiment.
- d. These are conditions that include the dependent variable.

## 5. The purpose of a data table

- a. is to communicate the meaning of the information in the grid.
- b. is to communicate the effect of the independent variable on the dependent variable
- c. is to present information in columns and rows.
- d. all answers are correct.

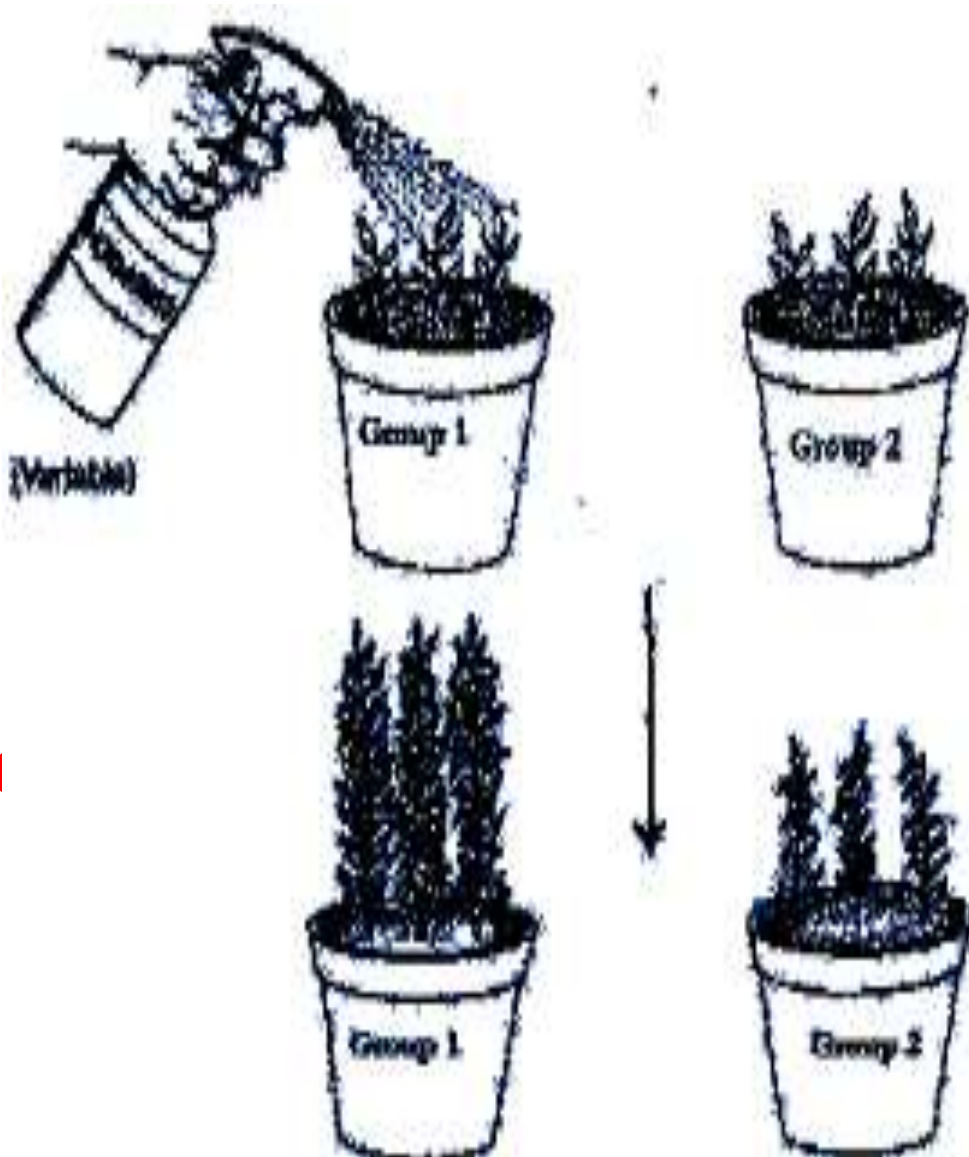
## 6. A hypothesis is

- a. The prediction that a certain cause will result in a certain effect
- b. A prediction and/ or explanation of how changing the independent variable will change the dependent variable.
- c. A prediction and/ or explanation of how changing one experimental variable will effect another experimental variable.
- d. All answers are correct



# Bell Work, Thursday, Jan 23

Sketch the picture below



**1. Group 1 receives hormones & group 2 does not. In the experiment above what factor must be controlled?**

- a. The type of plant.
- b. The growth of the plant.
- c. The amount of hormones.
- d. None of the above.

**2. In the experiment above which group is the control?**

- a. Group 1.
- b. The plant group.
- c. Group 2.
- d. All the above.



# Bell Work, Thursday, Sept 12

**3. In the experiment above what is the independent variable.**

- a. The amount of hormones.
- b. The growth of the plant.
- c. The type of plant.
- d. All the above.
- e. None of the above.

**4. In the experiment above what is the dependent variable.**

- a. The amount of hormones.
- b. The growth of the plant.
- c. The type of plant.
- d. All the above.
- e. None of the above.

# Bell Work, Thursday, Jan 23

5. Write a hypothesis for the above experiment:

If the amount of hormones is increased then the plant growth will increase.

6. Contrast qualitative and quantitative data.

**Quantitative data is numerical information.**

**Example: the cup weighs 10.65 grams**

**Qualitative data is non-numerical information or descriptive information.**

**Example: the paper towel is wet.**