Nature Of Science Study Guide- 6th Grade

Name: _____ Period _____

Your Test is on: _____

For the following questions, indicate observation, inference and/or prediction.

1. _____ You get home from school to see that there are cookie crumbs on the floor and your little sister has chocolate on her face.
2. _____ You accuse your little sister of eating all of the cookies.
3. _____ Since you studied for this test, you will get an A.
4. _____ Vanessa had blue streaks in her hair today.
5. _____ I really like Katy Perry, so I will probably like Taylor Swift, too.
6. _____ If he continues to eat pizza like that, he will gain twenty pounds in the next year.
7. _____ My dog sheds her hair in summer.
8. _____ Shedding probably makes her feel much cooler.
9. _____ My father is sixty-five and drives a Cadillac.
10. _____ I am so clumsy, if I go rollerblading, I will probably fall down.
11. _____ If I change my socks, then my feet won't stink.
12. _____ That pink flamingo is 5 feet six inches tall.
13. _____ I saw grey clouds in the sky. I think it is going to rain.
14. _____ The Jolly Green Giant smells like green beans.
15. _____ I saw little brown pellets on the floor last night. We must have mouse in the house.

Scenario #1:

Homer notices that his shower is covered in a strange green slime. His friend Barney tells him that coconut juice will get rid of the green slime. Homer decides to check this out by spraying half of the shower with coconut juice. He sprays the other half of the shower with water. After 3 days of "treatment" there is no change in the appearance of the green slime on either side of the shower

Identify the:

1. Independent Variable:_____
2. Dependent Variable: _____
3. What is a hypothesis Homer can write about his observation? If _____
then_____ because _____
_____
_____

Scenario # 2

Bart believes that mice exposed to microwaves will become extra strong (maybe he's been reading too much Radioactive Man). He decides to perform this experiment.
He places 10 mice in a microwave for 10 seconds. He places another 10 mice in a microwave for 5 seconds. Lastly, he has10 mice that have not been put in the microwave.
For his test he placed a heavy block of wood in front of the mouse food. He counted how many mice could move the block of wood away from the food. Below is a chart with his findings.

Time in microwave	Number of mice that pushed the block away
10 seconds	8
5 seconds	7
0 seconds	7

Identify the:
1. Independent Variable:_____
2. Dependent Variable: _____
3. Control: _____

Put the following steps of the scientific method in the proper order.

_____ Share your results with others   _____ Ask Questions/Identify a Problem

_____ Make observations   _____ Arrive at a conclusion

_____ State a hypothesis   _____ Test the hypothesis

Scenario #3:

Smithers thinks that a special juice will increase the productivity of workers. He creates three groups of 50 workers each and assigns each group the same task, to staple sets of papers.
Group 1 drinks 100mL of the special juice while they work.
Group 2 drinks 50mL of the special juice while they work.
Group 3 is not given the special juice while they work.
After an hour, Smithers counts how many sets of papers each group stapled. He made the data table below.

Number of sets of paper stapled
Group 1   1,030
Group 2   1,700
Group 3   2,113

1. Hypothesis: _____

2. Dependent Variable: _____

3. Independent Variable: _____

4. Constants/Control: _____

Match the following terms with the correct definition.

_____ 1. Hypothesis

_____ 2. Control/Constant

_____ 3. Dependent Variable

_____ 4. Experiment

_____ 5. Conclusion

_____ 6. Data

_____ 7. Independent Variable

A. An educated guess about the solution to a problem written as an If, then statement

B. A judgment based on the results of an experiment

C. Used to show that the result of an experiment is really due to the condition being tested

D. The factor that is manipulated during an experiment

E. The response that is measured in an experiment

F. Observations & measurements recorded

G. Organized process to test a hypothesis