

# Variables, Variables, Variables!

Name: \_\_\_\_\_ Period: \_\_\_\_\_

**Directions:** For each of the following problems/descriptions of experiments, determine the manipulated and responding variables. **Circle** the manipulated variable – what was changed on purpose. **Underline** the responding variable – what change resulted and was measured.

1. Plants grow faster in direct sunlight than in indirect sunlight.
2. Water evaporates faster in warm temperatures than in cool temperatures.
3. Lilies open and close because of the light and darkness caused by the rising and setting of the sun.
4. Plants grow slower when salt is added to their soil.
5. Diet Coke floats because there is more carbonation.
6. Diet Coke floats because it has Nutra-Sweet instead of sugar.
7. Determine how color affects the melting of M&Ms.
8. Determine which materials, plants or rocks, are the best creek bank erosion blockers.
9. Find out if wearing nail polish makes nails grow long and strong.
10. What is the effect of rubber band width on flight distance?
11. How does wing shape affect an airplane's flight?
12. Does passive smoking decrease lung capacity?
13. Which mouthwash kills the most bacteria?
14. Does water temperature affect how well detergents remove stains?
15. How does the color of a soft drink affect its taste?
16. Shortwave radio transmissions are improved when the number of sunspots is relatively high.
17. What is the effect of different colored light on the growth of plants?

**Homework – Due** \_\_\_\_\_

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Directions: Pick ONE of the 17 samples from above and complete the Experiment Planning chart.

Observation:	
Step 1: Start by making a problem statement.	
Step 2: Make an educated guess to answer your question. Identify your variables.	
Step 3: Make a <b>TESTABLE QUESTION</b> by including the variables.	
Step 4: Write your <b>PREDICTION</b> based on your hypothesis.	
Step 5: To make a <b>HYPOTHESIS</b> , explain why you think what you predicted will occur.	

## Homework – Due \_\_\_\_\_