**Station #1: Scientific Inquiry Practice**

**DIRECTIONS: ON YOUR OWN SHEET OF PAPER for each scenario below, identify the following:**

* **independent variable (IV) = the variable that is changed on purpose OR what “I” can control as the experimenter and change OR what causes the change in the experiment**
* **dependent variable (DV) = the variable that changes because of the IV OR what is being measured OR data/measurement/observations**
* **constants (C) (AT LEAST 2) = what stays the same on purpose in an experiment**
* **problem (written in the proper form) = the purpose of the experiment (specific, testable, in the form of a question)**
* **hypothesis (written in the proper form) = answers the problem question (If IV, then DV because)**
* **title (written in the proper form; CAPITALIZED) = The Effect of the IV on the DV**

**Scenarios:**

1. **Michael put 100 red seeds, 100 brown seeds, and 100 yellow seeds in his bird feeder. He counted the number of seeds of each color that remained after 2 days.**

**IV =**

**DV =**

**C = (at least 2)**

**Problem =**

**Hypothesis =**

**Title =**

1. **Leticia times how fast apple slices turned brown after being dipped in different preservatives, such as lemon juice, fruit freshener, water and lime soda.**

**IV =**

**DV =**

**C = (at least 2)**

**Problem =**

**Hypothesis =**

**Title =**

1. **Karen was working with super glue and wondered if anything could impact how strong the glue holds. She attempted to add sugar and noticed that the glue did not seem to hold as well. She decided to conduct an official experiment to test her results.**

**IV =**

**DV =**

**C = (at least 2)**

**Problem =**

**Hypothesis =**

**Title =**

**Answers to Station #1: Scientific Inquiry Practice**

**DIRECTIONS: Make corrections to the ones that you have completed. Please make sure that you are asking questions if you do not understand why you got things wrong.**

1. **IV = color of seeds (red, brown, yellow)**

**DV = # of seeds of each color that remained**

**C = started with 100 seeds of each color; 2 days; same bird feeder; same location; same kind of bird seed**

**Problem: Which color of seed does the birds like the best?**

**Hypothesis: If the birds have the choice between red, brown, and yellow seeds, then the birds will eat the most of the yellow seeds because … OR**

**If the color of seeds is red, then there will be fewer remaining because …**

**Title: The Effect of the Seed Color on the Number of Seeds Eaten**

1. **IV = different preservatives (lemon juice, fruit freshener, water, and lime soda)**

**DV = how fast apple slices turned brown (time for apples to turn brown)**

**C = same amount of preservative, same time in preservative, same size of apple pieces**

**Problem: Which preservative is the best at preventing apples from turning brown? OR Which kind of preservative keeps apples fresh longer?**

**Hypothesis: If the different preservatives are used on the apples, then the lemon juice will be best at preventing the apples from turning brown because … OR**

**If the preservative is lemon juice, then the apples will stay fresh longer because…**

**Title: The Effect of the Different Preservatives on How Fast Apples Turn Brown**

1. **IV = amount of sugar**

**DV = strength of the glue**

**C = amount of water, drying time, materials glued to test holding strength**

**Problem: What is the effect of the amount of sugar in a glue mixture on the strength of the glue?**

**Hypothesis: If the amount of sugar in a glue mixture is increased, then the glue will be weaker because the bonds of the glue will be weakened by the interference of the sugar molecules.**

**Title: The Effect of the Amount of Sugar in a Glue Mixture on the Strength of the Glue**