

Name: Sylvia Scientist

Topic/Purpose/Hypotheses Worksheet

When asked for a measurement method, you are to state HOW you will measure a specific variable, NOT what units will you use once you have measured it. Indicate the tool(s) you will use to measure that variable. If it not obvious how that tool would be used to measure that variable, give a brief description of its use (ie. I will use a light meter to determine the amount of light striking each of my plants). If you can't measure a variable, you can't use it! Any suggested use of a survey as a measurement tool must be approved by me BEFORE you hand in the topic rubric.

If you have an I.V. that is measured in categories, you must give some of the categories so that your hypothesis makes sense.

My topic chosen to pursue for my science project: food Sciences

a. How does the amount of baking powder affect the thickness of a cookie .

Independent variable measurement method (Tool used): *teaspoon*

Dependent variable measurement method (Tool used): *ruler*

Hypothesis: the more baking powder, the thicker the cookie .

b. How does cooking method affect fat content of hamburgers .

Independent variable measurement method (Tool used): *categories (grilling, broiling, baking)*

Dependent variable measurement method (Tool used): *triple beam balance and a fat tester*

Hypothesis: In order of predicted fat lost (most to least): Grilling, frying, baking.

c. How does rise temperature affect volume of yeast bread .

Independent variable measurement method (Tool used): *Thermometer*

Dependent variable measurement method (Tool used): *Cover with plastic and displace water*

Hypothesis: The warmer the yeast, the higher the volume until the yeast die .

Second Choice Topic: Bacteria/mold (Microbiology)

a. How does Type of Bread affect Rate of mold growth .

Independent variable measurement method (Tool used): *Categories (rye, white, wheat)*

Dependent variable measurement method (Tool used): *Dissecting scope count*

Hypothesis: *In order of mold growth (greatest to least): white, wheat, rye .*

b. How does *Temperature* affect *Bacterial growth* .

Independent variable measurement method (Tool used): *Thermometer*

Dependent variable measurement method (Tool used): *agar plate count*

Hypothesis: *There will be an optimal temperature specific to a specific bacterial type .*

c. How does *Moisture* affect *rate of mold growth* .

Independent variable measurement method (Tool used): *Sling Psychrometer*

Dependent variable measurement method (Tool used): *Dissecting scope count*

Hypothesis: *There will be an optimal humidity specific to a specific mold type .*

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Third Choice Topic: *Swimming*

a. How does *type of stroke* affect *respiration rate* .

Independent variable measurement method (Tool used): *categories (breast, butterfly, side)*

Dependent variable measurement method (Tool used): *respirometer*

Hypothesis: *In order of respiration rate (greatest to least): side, breast, butterfly .*

b. How does *Water temperature* affect *Speed* .

Independent variable measurement method (Tool used): *thermometer*

Dependent variable measurement method (Tool used): *Stopwatch/pool markings*

Hypothesis: *The greater the temperature the slower the speed, to a point .*

c. How does *water temperature* affect *respiration rate* .

Independent variable measurement method (Tool used): *thermometer*

Dependent variable measurement method (Tool used): *respirometer*

Hypothesis: *The colder the temperature the higher the respiration rate to a point .*