

Hypothesis Writing Practice

Define the following words and concepts related to the scientific method

1. Constants: _____

2. Control Group: _____

3. Dependent Variable: _____

4. Experimental Groups: _____

5. Hypothesis: _____

6. Independent Variable: _____

7. Trials: _____

8. Variables: _____

Write a Question for each of the following hypothesis. Identify the manipulated (independent) variable and responding (dependent) variable for each hypothesis.

Example:

If dogs are fed treats, then they will bark less.

Manipulated/Independent variable: Treats fed to dogs.

Responding/Dependent variable: Less barking.

9. What effect does high temperature have on radish germination? _____
Independent variable: _____
Dependent variable: _____
10. What effect does studying with music have on student test scores? _____
Independent variable: _____
Dependent variable: _____
11. What effect does food color have on the amount of food fish eat? _____
Independent variable: _____
Dependent variable: _____

12. What effect does light have on plant growth? _____

Independent variable: _____

Dependent variable: _____

13. What effect does smiling have on teacher giving homework? _____

Independent variable: _____

Dependent variable: _____

14. If plants are watered, then growth height will increase. _____

Independent variable: _____

Dependent variable: _____

15. If chocolate is given to teacher, then amount of homework will decrease. _____

Independent variable: _____

Dependent variable: _____

16. If trees have leaves, then bird nests will increase. _____

Independent variable: _____

Dependent variable: _____

17. If acid rain is in water, then fish population will increase. _____

Independent variable: _____

Dependent variable: _____

18. If calcium is given, then bone strength will increase. _____

Independent variable: _____

Dependent variable: _____

Practice: Write a testable hypothesis in if...then...format for each of the following research problems identify the variable, control group and experimental group.

19. Cigarette smoke increases the risk of lung cancer.

Hypothesis: _____

Independent Variable _____

Dependent Variable _____

Control Group _____

Experimental Group _____

20. Eating breakfast increases performance in school.

Hypothesis: _____

Independent Variable _____

Dependent Variable _____

Control Group _____

Experimental Group _____

Underline the IV (what is the experimenter changing) and circle the DV (what is being measured) and then write your hypothesis in an "If, then" format.

1. Can reading small print cause a headache?

Hypothesis: _____

2. Does the amount of iron in the water affect plant growth?

Hypothesis: _____

3. Can plant growth be increased by increasing the brightness of the light?

Hypothesis: _____

4. Will toddlers grow taller if they drink more milk?

Hypothesis: _____

5. Will being in the sun too long without sunscreen cause skin cancer?

Hypothesis: _____

6. Will the apples be sweeter when the tree gets enough water?

Hypothesis: _____

7. Will test scores increase if studying is done every day?

Hypothesis: _____

8. Will mushroom grow more if the moisture is increased?

Hypothesis: _____

9. Does consuming too much salt cause high blood pressure?

Hypothesis: _____

10. Will brushing your teeth for 10 minutes a day prevent cavities?

Hypothesis: _____

Take the following inferences and turn them into formal hypotheses.

- Your hypothesis should:
 - make sense to anyone who can read it
 - be something that can be tested
 - answer the Problem

Example: Increased sleep may cause higher grades.

Independent variable: amount of sleep Dependent variable: grade percent average

Formal hypothesis: If the amount of sleep is increased then the grade percent average will increase because sleep allows students to be alert and focused during class.

1. Chocolate may cause pimples

Independent variable: _____ Dependent variable: _____

Formal hypothesis: _____

2. Salt in soil may affect plant growth.

Independent variable: _____ Dependent variable: _____

Formal hypothesis: _____

3. Plant growth may be affected by the color of the light.

Independent variable: _____ Dependent variable: _____

Formal hypothesis: _____

4. Bacterial growth may be affected by temperature.

Independent variable: _____ Dependent variable: _____

Formal hypothesis: _____

5. Ultraviolet light may cause skin cancer.

Independent variable: _____ Dependent variable: _____

Formal hypothesis: _____

6. Temperature may cause leaves to change color.

Independent variable: _____ Dependent variable: _____

Formal hypothesis: _____
