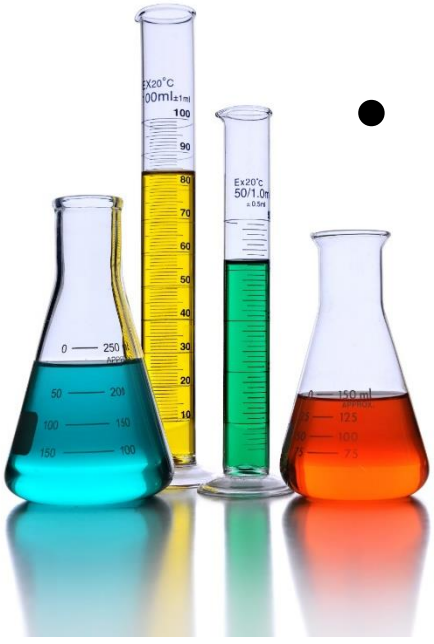
Variables

in experiments



- Independent
- Dependent
- Controlled

Hidden Message

Scavenger Hunt

Table of Contents

Directions

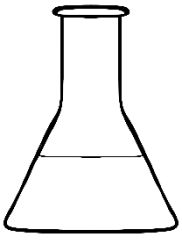
Prep:

1. Print a master (color is best) copy of the student pages and fact cards. If card stock is available for fact cards, this is recommended.
2. Cut and laminate the fact cards for durability.
3. Make student copies of the hidden message page and scavenger hunt worksheet.
4. Place the fact cards in various locations for students to find. Difficulty level will not affect the activity.

Student directions: Search for the fact cards to fill in the blanks on your Scavenger Hunt page. While filling in the blanks on the Scavenger Hunt, record the hidden message letter (found on each fact card) onto the "Did you know?" page. Be sure to match the correct Fact Cards and letters. The hidden message awaits! Good luck!

***Teacher tip: This activity can be used in many different ways, but it is recommended as an introductory activity to spark student interest.**

The fact cards in the scavenger hunt have the missing letters that belong below in the hidden words.
Fill in the missing letters above the number that matches each fact card to discover the completed message!



Did YOU KNOW?

In math, a variable is a

3	10	7	15	8	1

that stands for a

14	5	13	9	11	4

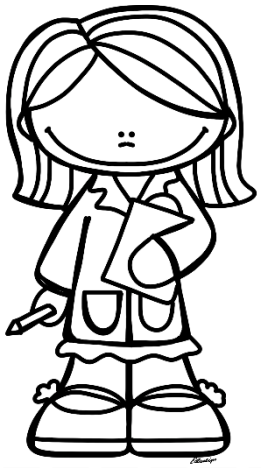
you have to figure

			.
12	2	6	

Example:

5 + **y** = 15

y = 10



Did YOU KNOW?

In math, a variable is a

___	___	___	___	___	___
3	10	7	15	8	1

that stands for a

___	___	___	___	___	___
14	5	13	9	11	4

you have to figure | ___ | ___ | ___ | .

12	2	6

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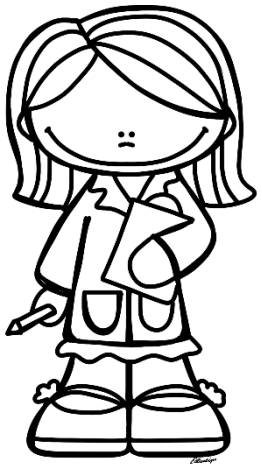
y = 10



Did YOU KNOW?

In math, a variable is a

___	___	___	___	___	___
3	10	7	15	8	1

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Example:

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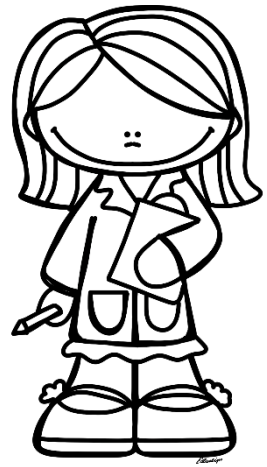
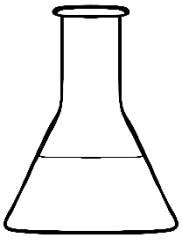


ANSWER KEY



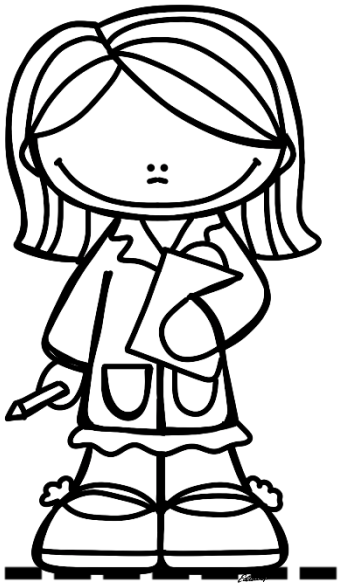
Did you know?

In math, a variable is a LETTER that stands for a NUMBER you have to figure OUT.

Example:

$5 + y = 15$

$y = 10$



Variables Scavenger Hunt

Directions: Find the Fact Cards (in any order) and fill in the missing words. Be sure to fill in the hidden letters on the "Did you know?" page.

1. Experiments are a great way to observe _____ and _____ relationships.
2. By conducting an experiment, you are problem solving and looking for _____.
3. When planning an experiment, you must always consider your _____.
4. In science, a variable is something that can be _____, _____, or _____.
5. There are 3 types of scientific variables.
   - _____ (the cause)
   - _____ (the effect)
   - _____ (the constants)

6. The independent variable is what you are going to change and _____.
7. When you test an independent variable, you collect _____ by recording what happened.
8. An experiment can only have _____ independent variable. This means that you should only change one factor at a time so that your results are _____.
9. Valid means accurate and _____.
10. The _____ variable is what you measure or observe.
11. In a cause and effect relationship, the dependent variable is the _____.
12. Controlled variables are the _____ factors that do not change when conducting an experiment.
    For example, if you are comparing the growth of two different plants to see which one grows taller the amount of water and sunlight they each receive should be the same.
13. Independent variable example:
    If you are testing 2 different battery brands to see which one lasts longer, your independent variable is the _____ of battery because you are using _____ brands.
14. Dependent variable example:
    If you are testing 2 different battery brands to see which one lasts longer, your dependent variable is the _____ it takes to use up the batteries, because it depends on the brand.
15. Controlled variables example:
    If you are testing 2 different battery brands to see which one lasts longer, you should test them both in the same kind of _____, such as a flashlight.

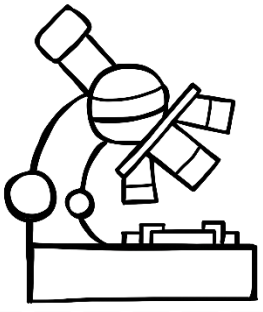
Variables Scavenger Hunt – Page 1

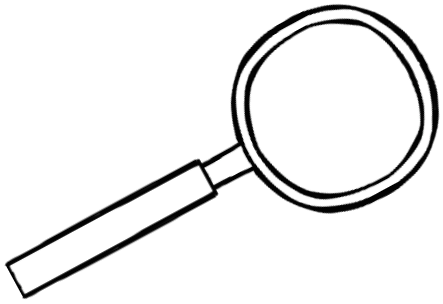
Directions: Find the Fact Cards (in any order) and fill in the missing words. Be sure to fill in the hidden letters on the "Did you know?" page.

1. Experiments are a great way to observe _____ and _____ relationships.
2. By conducting an experiment, you are problem solving and looking for _____.
3. When planning an experiment, you must always consider your _____.
4. In science, a variable is something that can be _____, _____, or _____.
5. There are 3 types of scientific variables.
   - _____ (the cause)
   - _____ (the effect)
   - _____ (the constants)
6. The independent variable is what you are going to change and _____.
7. When you test an independent variable, you collect _____ by recording what happened.
8. An experiment can only have _____ independent variable. This means that you should only change one factor at a time so that your results are _____.

Variables Scavenger Hunt – Page 2

9. Valid means accurate and _____.
10. The _____ variable is what you measure or observe.
11. In a cause and effect relationship, the dependent variable is the _____.
12. Controlled variables are the _____ factors that do not change when conducting an experiment. For example, if you are comparing the growth of two different plants to see which one grows taller the amount of water and sunlight they each receive should be the same.
13. Independent variable example:
    If you are testing 2 different battery brands to see which one lasts longer, your independent variable is the _____ of battery because you are using _____ brands.
14. Dependent variable example:
    If you are testing 2 different battery brands to see which one lasts longer, your dependent variable is the _____ it takes to use up the batteries, because it depends on the brand.
15. Controlled variables example:
    If you are testing 2 different battery brands to see which one lasts longer, you should test them both in the same kind of _____, such as a flashlight.





Variables Scavenger Hunt

ANSWER KEY

1. Experiments are a great way to observe **cause** and **effect** relationships.
2. By conducting an experiment, you are problem solving and looking for **answers**.
3. When planning an experiment, you must always consider your **variables**.
4. In science, a variable is something that can be **changed**, **controlled**, or **measured**.
5. There are 3 types of scientific variables.
    - **Independent** (the cause)
    - **Dependent** (the effect)
    - **Controlled** (the constants)
6. The independent variable is what you are going to **change** and **test**.
7. When you test an independent variable, you collect **data** by recording what happened.
8. An experiment can only have **one** independent variable. This means that you should only change **one** factor at a time so that your results are **valid**.
9. Valid means accurate and **reliable**.
10. The **dependent** variable is what you measure or observe.
11. In a cause and effect relationship, the dependent variable is the **effect**.
12. Controlled variables are the **constant** factors that do not change when conducting an experiment.

    For example, if you are comparing the growth of two different plants to see which one grows taller the amount of water and sunlight they each receive should be the same.
13. Independent variable example:
    If you are testing 2 different battery brands to see which one lasts longer, your independent variable is the **brand** of battery because you are using **different** brands.
14. Dependent variable example:
    If you are testing 2 different battery brands to see which one lasts longer, your dependent variable is the **amount of time** it takes to use up the batteries, because it depends on the brand.
15. Controlled variables example:
    If you are testing 2 different battery brands to see which one lasts longer, you should test them both in the same kind of **device**, such as a flashlight.

1

Experiments are a great way to observe cause and effect relationships.

Hidden message letter: L

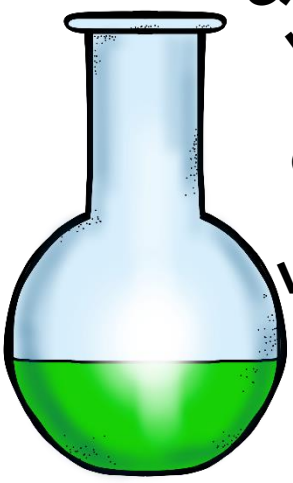
2

By conducting an experiment, you are problem solving and looking for answers.

Hidden message letter: U

3

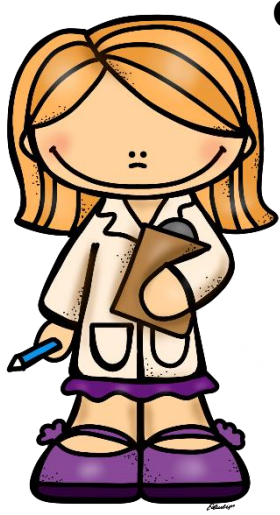
When planning an experiment, you must always consider your variables.



Hidden message letter: S

4

In science, a variable is something that can be changed, controlled, or measured.

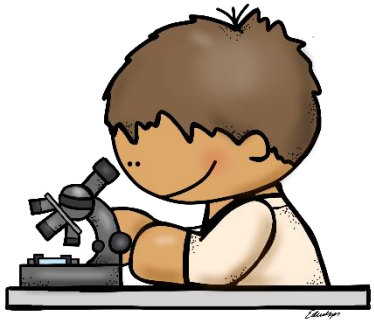


Hidden message letter: R

5

There are three types of scientific variables.

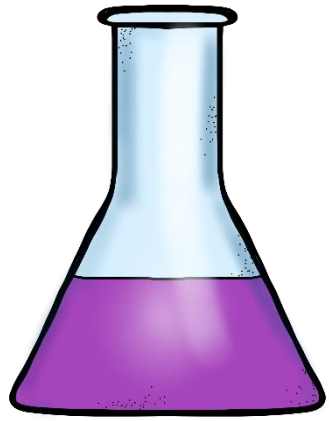
- Independent (the cause)
- Dependent (the effect)
- Controlled (the constants)



Hidden message letter: U

6

The independent variable is what you are going to change and test.



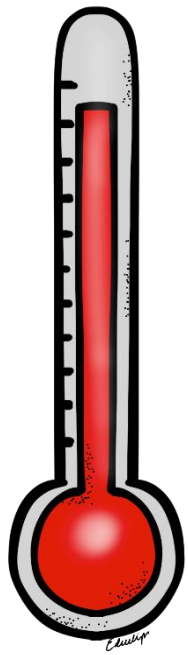
Hidden message letter: T

7

When you test an independent variable, you collect data by recording what happened.

Hidden message letter: M

8

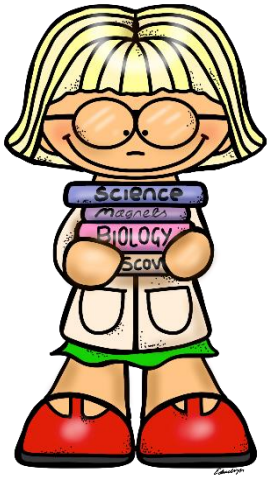


An experiment can only have one independent variable. This means that you should only change one factor at a time so that your results are valid.

Hidden message letter: O

9

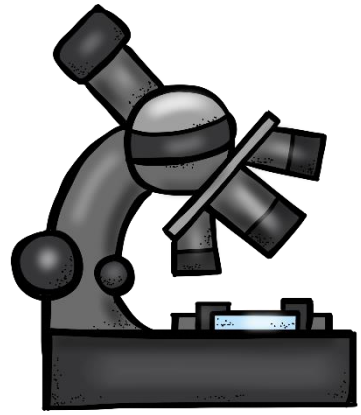
Valid means accurate and reliable.



Hidden message letter: B

10

The dependent variable is what you measure or observe.



Hidden message letter: Y

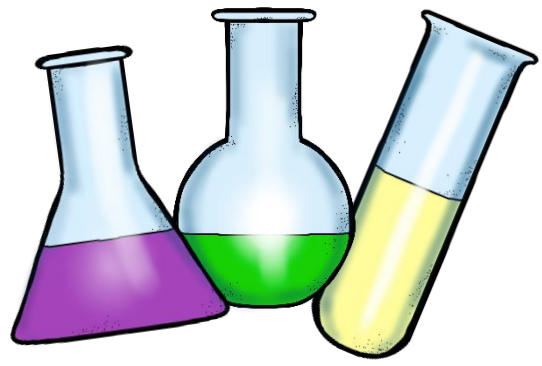
11

In a cause and effect relationship, the dependent variable is the effect.

Hidden message letter: E

12

Controlled variables are the constant factors that do not change when conducting an experiment.

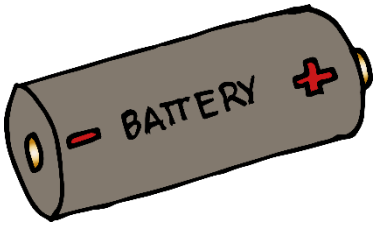


Hidden message letter: O

13

Independent variable example:

If you are testing 2 different battery brands to see which one lasts longer, your independent variable is the brand of battery because you are using different brands.



Hidden message letter: M

14

Dependent variable example:

If you are testing 2 different battery brands to see which one lasts longer, your dependent variable is the amount of time it takes to use up the batteries, because it depends on the brand.

Hidden message letter: N

15

Controlled variables example:

If you are testing 2 different battery brands to see which one lasts longer, you should test them both in the same kind of device, such as a flashlight.

Hidden message letter: B

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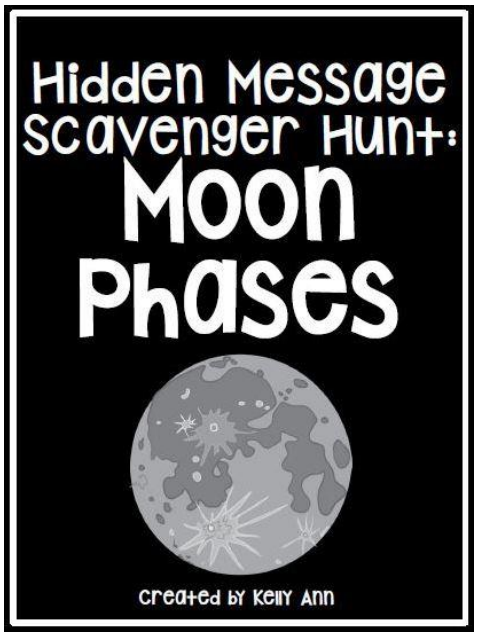

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