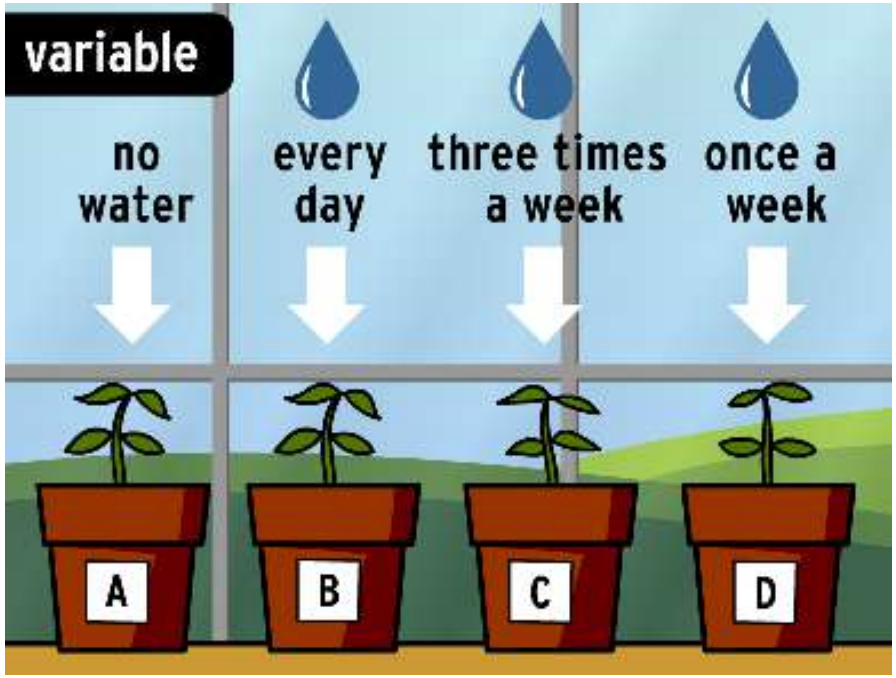
- Please write your HW in your agenda.
- Please update your table of contents.

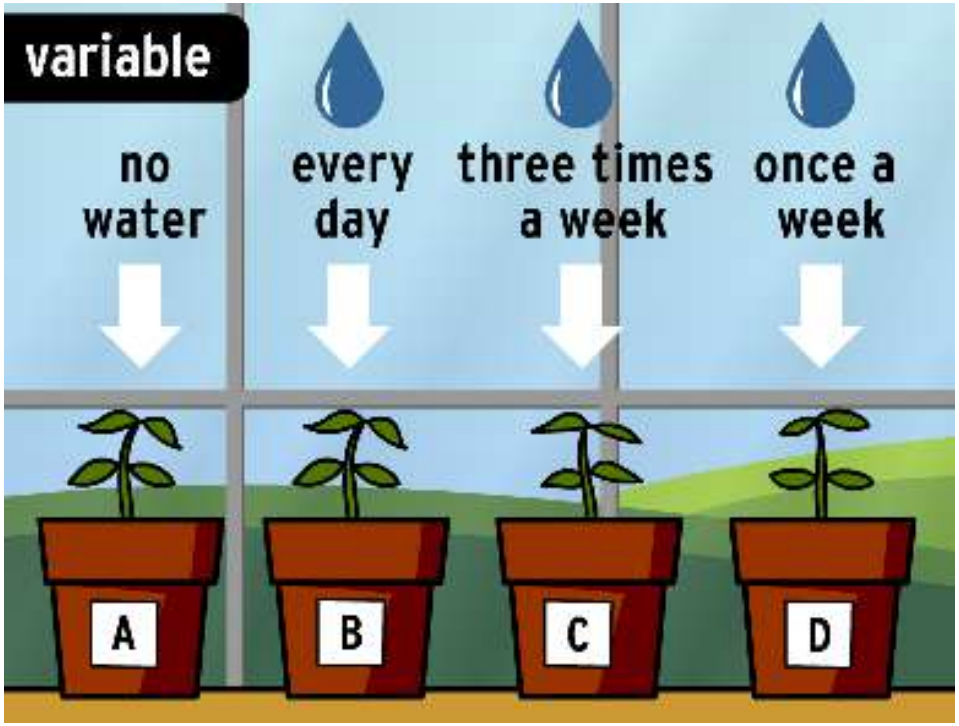
Page #	Title
29-30	Hypothesis and Variables

- Please take a sheet from the cart and tape/glue it into page 29.

- A variable is any factor that can be controlled or changed in an experiment.



- A control variable is a part of the experiment that must stay the same throughout.



- An independent variable is a condition or factor that **you change** in the experiment.
- Example question: In what temperature would corn grow the tallest?
- Example question: How much time do students need to study to get an A?
- Example question: What brand of athletic shoes allows for the fastest time in a 5k race?

- Dependent variable is the factor of the experiment that is changed by the independent variable.
- Example question: In what temperature would corn grow the tallest?
- Example question: How much time do students need to study to get an A?
- Example question: What brand of athletic shoes makes for the fastest time in a 5k race?

Independent variable = CAUSE

Dependent variable = EFFECT

1. Which type of sponge absorbs the most amount water?

IV: DV:

2. Which type of garbage bag can hold the greatest weight before ripping?

IV: DV:

3. How does temperature affect the speed a pillbug can run?

IV: DV:

4. How does the amount of food affect the number of bird offspring?

IV: DV:

- An educated guess based on prior knowledge, observations, theories, etc. that can be tested using an experiment.
- A good hypothesis is testable.
- Is this a good hypothesis?

  If a giraffe stretches its neck to reach leaves on a tree, then its neck will remain long and its offspring will also have a long neck.
- Just because a hypothesis is good, doesn't mean it has to be right!

- Has to be written in the "if…then…" format.
- The "if…then…" format helps to show a clear relationship between the independent variable (cause) and dependent variable (effect).
- Your hypothesis should be specific!
  - Example: If a plant receives unlimited natural sunlight, then it will grow taller than a plant that receives natural sunlight for 2 hours a day.
  - Nonexample: If plants get more natural sunlight, then they will grow the tallest.

Rule of thumb: If…Cause, then…Effect

T-Chart on pg. 30: Write 1 example & 1 non-example

Does the amount of junk food RMS students eat at lunch affect the number of students that go home sick?

- Yes, because if students eat too much junk food, they will get sick.
- If students eat at least two pieces of junk food a day at lunch then they will go home sick.
- If students eat 5 pounds of junk food over a week of school then they will go home sick.
- If junk food affects sick kids then they shouldn't serve it.
- If students get sick then they ate only junk food.
- If students eat junk food then they won't get sick.
- If the students eat junk food and get sick then the junk food is bad for them.
- If students get sick from eating junk food then they will throw up.

- Open up your notes.
- On the inside, cut out all the variables and sort them by independent variables and dependent variables.Glue them down.
- Glue in the hypothesis section and label each one:
  - ✓ for good hypothesis
  - X for bad hypothesis

Here are the questions to help you decide between IV and DV:

- How does the amount of gas in a car affect the distance traveled?
- What effect does temperature have on plant growth?
- How does skateboard weight affect its speed?
- Does the number of hours shopped influence the amount of money spent at the mall?

Write your name at the top of the exit slip and answer the 3 questions related to this testable question: **Would webbed fingers or webbed toes more greatly increase the speed of a swimmer doing the freestyle stroke.**

- What is the independent variable?
- What is the dependent variable?
- Make a hypothesis about the question.

Inquiry Lab Checklist

- For homework, write your final question into the checklist on page 27.
- Identify the independent and dependent variables.
- Write your own hypothesis.