

Prlogue Notes page 1

What is Earth Science?

What sciences are included in Earth Sciences?

How is science performed or carried out? In other words, what do all scientists do?

A. Observation -

Make three observations about this classroom:

- 1.
- 2.
- 3.

Observations:



Inferences:

B. Inference -

Make three inferences based on your earlier observations of this classroom:

- 1.
- 2.
- 3.

Write a paragraph about some observations and inferences that an earth scientist would make. Include the following:

1. Introduction sentence that includes the type of scientist.
2. 2-3 sentences that specifically describe at least one observation and one inference.
3. Describe any instruments that this scientist might use.
4. Conclusion sentence

Observation or Inference: Write an "I" or "O" for each.

___ 1. It looks like it's going to rain.

___ 3. The rock has a mass of 15 grams.

___ 5. The plant is dying.

___ 2. The desk is dirty

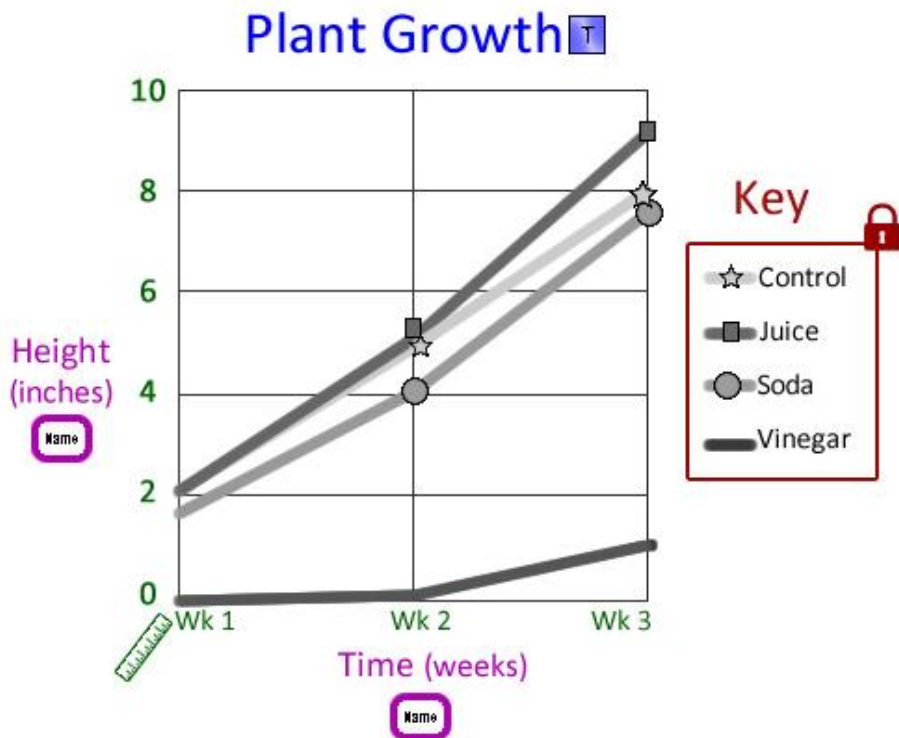
___ 4. The faucet is shiny.

___ 6. Kingston will beat Newburgh.

Graphing & Relationships

Graphing Essentials:


- To the right is an excellent graph that includes all important parts (below you'll see more details about each part).
- Students should always use PENCILS when creating graphs
- Every effort should be made to use at least 75% of the space provided on the graph paper.




Every graph needs:

T Title _____

Name Labels _____

 Scale _____

 Key _____

Independent Variable

Dependent Variable

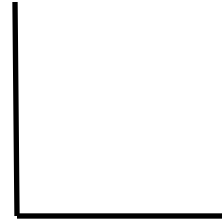
Relationships

A relationship describes how two variables affect each other. In other words, a relationship describes how one thing (variable) changes another thing (variable).

Basic Types of Relationships:

1. Direct relationship: where both variables increase or both decrease.

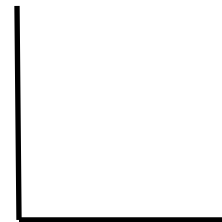
a. When graphed, it would look like this:



b. Examples:

2. Indirect or inverse relationship: where the variables “do” the opposite of each other. One increases and the other decreases.

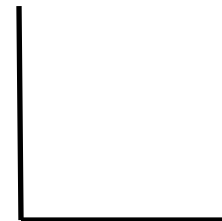
a. When graphed, it would look like this:



b. Examples:

3. Cyclic relationship: where the values repeat themselves in a predictable period of time.

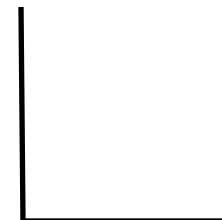
a. When graphed, it would look like this:



b. Examples:

4. No relationship: when a variable does not cause a change in another variable.

a. When graphed, it would look like this:



b. Examples:

Rate of Change

- Many observations are gathered over a period of time.
- The rate of change formula (from your ESRT) allows us to analyze how those values change over time.

Example: A 40 cm Blue Spruce tree was planted in front of MJM in 1985. In 2010, the same tree measured 260 cm tall. Calculate the how much the tree grew each year on average (rate of change).