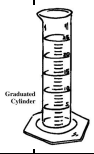
Fast Facts #1- Process Skills

Name _____

Terms	Definitions	Examples
Observation	Using your senses to gather information about the world	We hear a barking dog. I am counting the twelve seeds. They smell smoke.
Qualitative Observation	An observation using your five **senses** –sight, hearing, touch, smell, and taste	The room smells like lemons. The board feels rough. Mrs. Leigher's room is full of yellow roses.
Quantitative Observation	An observation using **numbers** and/or **measurements** or makes **comparisons** (more than, all, few, less than, none)	The glass holds 225 mL of water. There are 24 roses. There are more than a dozen guppies. None of the eggs have hatched.
Inference	An attempt to **explain** an observation	Mrs. Leigher found the yellow roses on sale. It must be Mrs. Leigher's birthday.
Prediction	Making an educated guess about the future based on what you know already	Mrs. Leigher will get yellow roses on her next birthday.
Classification	**Grouping** items together that are alike in some way	Red group – apples, blood, tomato Flowers – tulip, rose, daisy
Mass	Amount of **matter** an object has Instrument - **Balance** Units - kg, g, mg 	The mass of a book is 3 kilograms. The mass of a cookie is 8 grams. The mass of a pill is 20 milligrams.
Volume	The amount of **space** a substance takes up Instrument - Graduated Cylinder Units - kL, L, mL (cc) 	The ocean is measured in kiloliters. Pepsi is measured in Liters. A spoon is measured in milliliters. A cubic centimeter equals a mL.
Distance/ Length	**Length, Height, or Width** Instrument - Metric Ruler/Meterstick Units - km, m, cm, mm 	kilometer – little less than a mile meter- floor to door knob centimeter – width of pinky finger millimeter- thickness of a dime
Temperature	How **hot or cold**? Instrument - **Thermometer** **Units** - Degrees **Scales** - Celsius and Fahrenheit 	The boiling point of water is 100℃. The boiling point of water is 212℉. The freezing point of water is 0℃. The freezing point of water is 32℉.
Steps in the Scientific Method	1. Scientific question 2. Research 3. Develop an hypothesis 4. Experiment 5. Record and analyze data 6. Draw Conclusions 7. Communicate results	**Technological Design** The steps we use in any science investigation

Independent or Manipulated Variable	The one variable you are **testing/changing** on purpose in an investigation	The Forest Ranger wants to know if **different types of soil** will determine the height of the trees.
Dependent or Responding Variable	The one variable you **measure** as a result of the investigation (data)	The Forest Ranger wants to know if different types of soil will determine the **height of the trees**.
Controlled Variables	The variables that remain constant (the **same**) in an investigation	The **same** type of tree was planted. All trees recieved the **same** amount of sunlight. All trees received the **same** amount of water. All trees received the **same** amount of fertilizer.
Hypothesis	A **prediction** about the outcome of the investigation	**If I** plant the trees in sand, **then** I think the trees will grow taller than the trees planted in red clay.
Bar Graph	This graph is used when you are displaying data in separate or distinct **categories**.	A bar graph is used when you are comparing the numbers of different types of trees in a forest.
Line Graph	This graph is used when you are measuring the same variable over **time**. The manipulated variable is continuous.	A line graph is used when you are comparing the growth of a tree you measure each year for a period of ten years. (same thing measured **over time**)

Dependent
Responding
Y-axis

Manipulated
Independent
X-axis

Laboratory Safety

Study the Safety Symbols and the Safety Rules in the book.

1 meter = 100 cm = 1000 mm

1 kilometer = 1000 m

1 liter = 1000 mL

1 kiloliter = 1000 liters

1 kilogram = 1000 grams

1 gram = 1000 milligrams

Centi = 1/100 Kilo = 1000 Milli = 1/1000

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