Lab Safety Rules
Date: _____
SWBAT: Identify and practice lab safety procedures

1. Report all accidents to the teacher IMMEDIATELY! Never handle broken glass!
2. Follow all written and verbal instructions carefully
3. Bring only your lab worksheet and a pencil to the lab area
4. Do not enter any lab storage area unless instructed to do so by the teacher
5. No food or beverages in the lab area
6. Never touch or taste chemicals without the teacher's permission
7. Waft fumes to smell odors. Do not sniff or breathe deeply, directly from the chemical
8. Wear goggles when instructed to do so; especially when a flame is present
9. Do no discard ANY solids in the sink
10. No horseplay (running, shoving, playing around) in the lab area
11. Use common sense! Ask if you have a question
12. Perform only the experiment given to you by your teacher
13. Ask the teacher if you do not know how to use a piece of equipment
14. Read the instructions before beginning the experiment. Do them in the order listed
15. Always clean up your lab area when you are finished
16. Wash hands after you finish a lab. Soap and paper towels are available at each station
17. Know the location of the safety equipment. Know the fire drill procedure
18. Keep hair tied back and clothing out of the way (roll up sleeves, remove ties, and bulky coats)

Intro to Earth Science
Date: _____
SWBAT: Describe and define the 4 branches of Earth Science

What is Earth and Environmental Science?
- The study of the Earth and the universe around it.
- The Earth and its environment are divided into **spheres** that overlap and interact.

There are **five** major branches in Earth Science: Geology, Hydrology, Meteorology, Ecology & Astronomy	
Geology – Lithosphere: The solid Earth	
Hydrology – Hydrosphere: All of the Earth's water	
Meteorology – Atmosphere: The air that surrounds Earth	
Ecology – Biosphere: All life on Earth	
Astronomy – Celestial Sphere: The universe beyond Earth	

Properties of Earth	
The Earth is magnetic ● ●	The Earth has gravity ● ●

Scientific Method
Date: _____
SWBAT: Identify and describe the steps of the Scientific Method. Be able to use the scientific method to design an experiment

In order to understand the world we need to have a goal in mind, this is where the Scientific Method comes in.

What is the Scientific Method?	
Steps	**Description**
1. Ask a Question/Observe a Problem	
2. Background Research	
3. Constructed a Hypothesis "If, then statement"	**Hypothesis** is a: _____ _____
4. Test Hypothesis	
5. Analyze Data and Draw Conclusion	
6. Repeat	

Parts of an Experiment		
Variables: things that change	Independent Variable	
	Dependent Variable	
Constants : things that don't change		
Control		

Laws vs Theories	
Law	Theory
• You drop a pencil. o The LAW of gravity states that it will fall, it does not matter why it falls	• You find a fossil of a half reptile/half bird. o The THEORY of evolution tries to explain why.

Metric System and Measurement

Date: _____

SWBAT: List in order the prefixes of the metric system. Change from one unit to another

The Metric System		
Measuring	Units	Calculated using
Length -		
Mass -		
Temperature -		
Volume –		
Density –		

- Would the objects with the following densities float or sink in pure water?
    - .85 g/mL
    - 1.4 g/mL

Converting Metric Units						
Kilo (K)	Hecto (H)	Deca (da)	Unit (gram, liter, meter)	deci (d)	centi (c)	milli (m)
1000	100	10	1	0.1	0.01	0.001

Step 1: Write the sentence to help remember the order of the prefixes

Step 2: Identify where you are

Step 3: Identify where you want to go

Step 4: How do you get there? (Right/Left, How many space?)

Problem: 2 m = _____ km

Practice: 2000 mg = _____ g   104 kL = _____ dL   480 cm = _____m

Converting Standard Units	
In the box method, we always make sure our units cancel, so…….. ALWAYS WRITE YOUR UNITS!!!!!!!!!!!!!!!	

Step 1: Draw box

Step 2: Put starting measurements in top left

Step 3: Set up so units cancel

Problem: 10 ft = _____ in

Latitude and Longitude

Date: _____

SWBAT: Explain how to use and plot latitude and longitude to find locations.

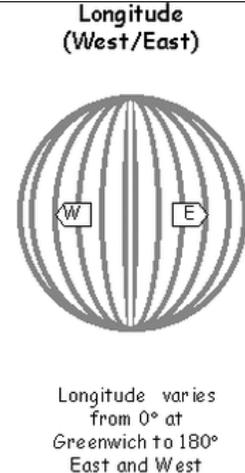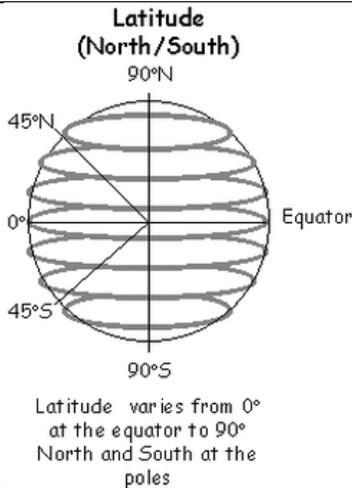| Coordinate System	
Latitude: North and South of the Equator • AKA:	Longitude: East and West of the Prime Meridian • AKA:
Reference - Equator Latitude: North Pole Latitude: South Pole Latitude: Tropic of Cancer Latitude: Tropic of Capricorn Latitude: Arctic Circle Latitude: Antarctic Circle Latitude:	**Reference - Prime Meridian** Longitude: International Dateline Longitude:

Coordinates are always written like an (*x,y*) plot. (Latitude, Longitude)

Latitude and Longitude
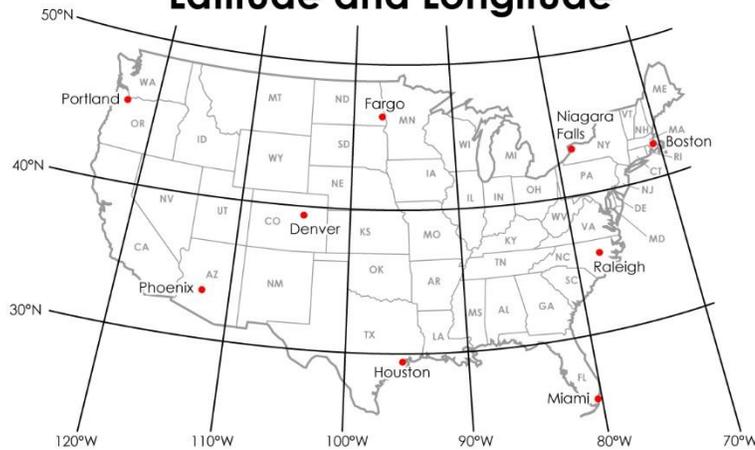
1. 33°N latitude, 112°W longitude _____

2. 35°N latitude, 78°W longitude _____

3. 45°N latitude, 122°W longitude _____

4. 29°N latitude, 95°W longitude _____

5. 43°N latitude, 79°W longitude _____

6. 25°N latitude, 80°W longitude _____

Topographic Maps
Date:
SWBAT: Interpret and construct topographic map. Predict geologic formations based off topographic maps.

Topographic Maps
- Show the _____ of the Earth.

Examples of features: hills, rivers, valleys…

Topographic Maps	
Contour Lines	• Connect all the points at _____. • **Lines never cross!** • The closer the lines, the _____. • "V" lines indicate a valley • "V" lines always point upstream (rivers flow from high to low elevation) • _____indicates hills or mountains.
Depression Contours	• Show a _____. • Are dashed
Contour Interval	• The difference in elevation between _____.
Contour Index	• Every _____ contour line is in _____ and labeled with the elevation number • Difference between 2 contour index lines divided by 5 = contour interval
Relief	• Difference between the _____. • Example: 150 ft. (highest) - 50 feet (lowest) = 100 feet (relief)

The top of this drawing is a contour map showing the hills that are illustrated at the bottom.
- On this map, the vertical distance between each contour line is 10 feet.

1. Which is higher, Able Hill or Baker Hill?

2. Which is steeper, Able Hill or Baker Hill?

3. How many feet of elevation are there

   between contour lines?

4. How high is Able Hill?

5. How high is Baker Hill?

Topographic Map (with contour lines that show points that are on the same level)
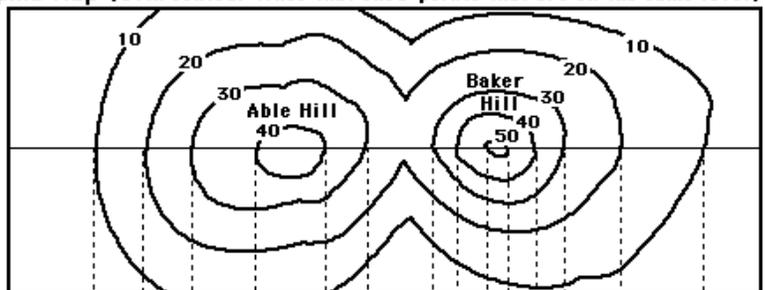
The two hills seen from the side, with elevations marked and dotted lines pointing to the corresponding contour lines.

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6. Are the contour lines closer together on Able Hill or Baker Hill?