Chapter 1 "The Nature of Science" Name: _____ Earth/Environmental Science

Intro to Earth Science
Date: _____

SWBAT: Describe and define the 5 major specialization areas of Earth Science along with understanding the 4 interactive earth's systems studied within the specialization and subspecialties of Earth Science. (**EEn. 2.7 Explain how the lithosphere, hydrosphere, and atmosphere individually and collectively affect the biosphere.)**

What is Earth and Environmental Science?

The Earth and its environment are divided into 4 Earth's Systems that overlap and interact. Name these interdependent systems:

- Describe and define the 5 major areas of specialization in the scope of Earth Science

Astronomy	
Meteorology	
Geology	
Hydrology	
Ecology Environmental Science	

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

Investigation:
Define Technology and investigate a technology that has enhanced the study of Earth Science. Give a brief description of how your chosen technology works and what data it provides for further investigation.

Investigation:
Choose one subspecialty of Earth science to investigate and provide a summary that includes the type of work done in this discipline, description of educational background needed in the field, and kinds of institutions where most people in the field are employed.

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"The Nature of Scientific Investigations"
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.

<table>
<tr><th colspan="3">What is the Scientific Method?</th></tr>
<tr><th colspan="2">Steps</th><th>Description</th></tr>
<tr><td colspan="2">1. Observe/Use prior knowledge to ask questions/See a Problem</td><td></td></tr>
<tr><td colspan="2">2. Background Research</td><td></td></tr>
<tr><td colspan="2">3. Constructed a Hypothesis

"If, then statement"</td><td>Hypothesis is a: _____

_____</td></tr>
<tr><td colspan="2">4. Test Hypothesis</td><td></td></tr>
<tr><td colspan="2">5. Analyze Data and Draw Conclusion</td><td></td></tr>
<tr><td colspan="2">6. Repeat</td><td></td></tr>
<tr><th colspan="3">Parts of an Experiment</th></tr>
<tr><td rowspan="2">Variables:
things that change</td><td>Independent Variable</td><td></td></tr>
<tr><td>Dependent Variable</td><td></td></tr>
<tr><td colspan="2">Constants : things that don't change</td><td></td></tr>
<tr><td colspan="2">Control</td><td></td></tr>
<tr><th colspan="3">Laws vs Theories</th></tr>
<tr><td colspan="2">Law

• You drop a pencil.
o The LAW of gravity states that it will fall, it does not matter why it falls</td><td>Theory

• You find a fossil of a half reptile/half bird.
o The THEORY of evolution tries to explain why.</td></tr>
</table>

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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
