

ScienceSaurus Pages:

Practice Layer		
Score	Teacher's Signature	Assignment: Remember that anything with an * must be done! For most lab days we will rotate labs/groups so not all students will be doing the same lab on the same day.
Measurement , The Scientific Process, and Physical Science Connections		
		* (15) NOTES – All 3 Sections
		* (5) Design data tables for TWO of the following: How does temperature affect the mass of a balloon? How does temperature affect volume of a balloon? How does age affect heart rate? How does age affect height?
		* (5) Observations vs. Inferences: choose one of the following: 1. Create a list of 50 observations and 50 inferences from around the classroom and school 2. Draw a picture/cartoon where an observer can make 10 observations and 10 inferences from your drawing. Make a list of possible observations and inferences on the back of your drawing.
Choose 3 activities from below		
		(5) Play the tic-tac-toe game to learn the instruments of science and to differentiate between an observation and an inference.
		(5) Worksheet – “Laboratory Safety Skills”
		(5) Worksheet – “Using the Balance & Measuring Length”
		(5) Worksheet – “Lab Equipment”
		(5) Worksheet – “Reading Thermometers & Measuring Liquids”
		(5) Worksheet – “Metrics and Measurement”
Choose at least 2 LAB activities from below		
		(10) LAB “Smile Metric Style”
		(10) LAB “Length Station”
		(10) LAB “Weight/Mass Station”
		(10) LAB “Length/Perimeter Station”
		(10) LAB “Capacity Station”
		(15) LAB “Treasure Hunt”
		* (20) Create a children’s book or a brochure that simplifies how to do a lab report OR Design/AND PERFORM a skit or a song about the scientific method
Do ONE of the activities below		
		(5) Make a 3-ring Venn Diagram to show the relationship between convection, conduction, and radiation.
		(5) RAFT: R-a student, A-Weight Watchers, F-informational, T-Why they need to change their name OR Mass vs. Weight Worksheet

Application Layer

Choose one number from each letter provided (A-C) – so that is 3 activities total from the application layer boxes. Answer using complete sentences and your best writing skills! Look at your rubric for more specific information

		<p>A.</p> <ol style="list-style-type: none"> 1. Choose two things that you do every day and explain how science relates to these things. 2. Write a paragraph about a famous scientist or a scientist who you may know! In what field of science does this person work? How are you similar to that person? 3. Write a story about a nature experience you have had at home, school, or on a trip. After you have written your story, list three observations and three opinions in your story.
		<p>B.</p> <ol style="list-style-type: none"> 1. Here are some examples of systems: the Earth and the moon system, the digestive system in your body, and a fish in an aquarium. Choose one of these systems and write a paragraph about it that answers these questions. “What are the different parts of the system?” “Why is it a system?” “What variables affect the function of the system?” 2. You are doing a presentation about the Golden Gate Bridge in your social studies class. Find out how long and wide the bridge is. If you were going to make a physical model of this bridge, what scale would you use? Would a physical scale model be easy to do? Why or why not?
		<p>C.</p> <ol style="list-style-type: none"> 1. Using what you have learned about energy, describe an event or a regular day in your life in terms of energy. Include at least three types of energy in your description. 2. You want to heat a cold room. You place a space heater in the corner. Make a sketch that describes the motion and temperature of the air in the room when the space heater is turned on.

“A Level” Assignment: Read three articles concerning one of the topics below. Write a 5 paragraph summary of what you learned and/or your opinion (if necessary). Include a complete bibliography for each article.

1. Research the SI unit system. Have there ever been BIG mistakes from a wrong conversion? If so, what was it? Should the whole world use one system over another (metric or English), if so which one and why?
2. Recent fires have caused problems in Colorado. How does a convection current cause fires to spread more quickly? What is fire mitigation? Should people be required to mitigate their property?
3. What is bio-mass? Is it really renewable? Should households be required to change from one form of energy to one that is more “green,” such as solar, wind, etc.

UNIT VOCABULARY:

Science	Inference	Hypothesis	Data	Scientific method	Scientific law
Experiment	Scientific theory	Measurement	Unit	Atom	Mass

Gram	Weight	Dependent Variable	Variable	Control Variable	Liter
Independent Variable	Graph	Meter	Matter	System	Volume
Accurate	Precise	Energy	Heat	Conduction	Kinetic Energy
Temperature	Density	Potential Energy	Convection	Buoyant Force	Radiation
Power Plant	Fluid				

Learning Goals:

Measurement - Chapter 1

Make inferences

Develop a hypothesis

List and describe the fields of science

Differentiate between observation and opinion

Record observations and data

Explain how scientists use senses to observe and investigate

Write a question and state a hypothesis

Distinguish between qualitative and quantitative data

Describe the scientific method

Compare and contrast scientific facts, laws, and theories.

The Scientific Process - Chapter 2

Express distance measurements in both English and SI units

Differentiate distance, volume, and mass measurements

Compare mass and weight

Convert between Fahrenheit and Celsius using a formula

Differentiate between measuring accurately and precisely

Distinguish independent, dependent, and control variables

Describe systems with different scales

Contrast types of models

Distinguish between graph types

Label parts of a graph

Construction appropriate graphs from data

Physical Science Connections - Chapter 3

Explain the role of the Sun as the ultimate sources of energy

Compare and contrast potential and kinetic energy

Recognize that heat can be transferred from one object to another

Describe the relationship between heat and the motion of atoms

Explain how temperature effects the motion of atoms

Compare and contrast convection, conduction, and radiation

Describe density as a physical property of matter

Distinguish the differences between mass and volume

Recognize how fluids float and sink

6_1: Studying Earth Science (Chapter 1-3)

Day 1	Day 2	Day 3	Day 4
Day 5	Day 6	Day 7	Day 8
Day 9	Day 10	Day 11	Day 12
Day 13	Day 14	Day 15	Day 16
Day 17	Day 18	Day 19	Day 20

Homework:

"Solve it" – Page 12
 Averaging (SP)
 The Scientific Method (SP)
 SI System (SP)
 SI – English Unit Conversions (SP)
 Temperature Scales (SP)
 Variables (SP)
 Drawing Line Graphs (SP)
 What's the Scale (SP)
 Understanding Math with Words (SP)
 Heat Transfer (SP)
 Density (SP)
 Buoyancy (SP)

Guided Practice

What's Your Hypothesis (SP)
 Stop Watch Math (SP)
 Observations vs. Opinions (SP)
 Types of Graphs (SP)
 Reading Graphs (SP)
 Dimensional Analysis (SP)
 Calculating Area (SP)
 Internet Research Skills (SP)
 Bibliographies (SP)

Resources:

<http://www.cpo.com/home/ForEducators/MiddleSchoolEarthScience/tabid/261/Default.aspx>