

[Back](#)**Getting Started - Pacing Guide****FIRST DAY AGENDA**

Date	Teacher	Student
	<u>CONNECTING</u> - Explain Student Information Card - Take roll - Tell me about you. - <u>About your teacher</u> - About the classroom <u>EXPECTATIONS, RULES AND PROCEDURES</u> Expectations, Rules and Procedures - <u>Ask Stupid Questions</u>	Complete <u>Student Information Card</u> - <u>Classroom Scavenger Hunt</u> - Getting Started Checklist Homework: - <u>Science Portal Scavenger Hunt</u> - Tab Workbook - <u>Science Portal Tutorial Video</u> - Success in Science - Welcome to Science - Course Syllabus - Lab Safety Contract - Lab Fee (\$20.00) Cash or check
	<u>SCIENCE PORTAL OVERVIEW</u> - Our class learning management system - Course Structure - Chapter Structure	- Turn in Signed Forms - Discuss reading articles

To Do List - reminders, tasks, deadlines

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Pacing Guide (4 Lessons) Started _____, Test date: _____

SCIENTIFIC METHOD & MEASUREMENT**Essential Question:** How do scientists design experiments, collect data, and communicate results using evidence, measurements, and graphs?

Date	Lesson Topic	Assignments	Lab	Quiz/Test
	LESSON 1: SCIENTIFIC METHOD What is science? Scientific Method overview 2, 4, 8 Puzzle Solver CER (Claim-Evidence-Reasoning) Experimental Design	- Check Your Progress: Q 1-4 (pg 11) - Review - Experimental Design practice Video: "Science in America"	LAB: CER – Sour Patch Lab	- Quiz 1
	LESSON 2: UNITS & STANDARDS Units and standards Metric system Focus Question (guided notes)	- Check Your Progress: Q 7-11 (pg 18) - Metric practice page - Review Video: <u>Roundest Object</u>		- Quiz 2
	LESSON 3: COMMUNICATING WITH GRAPHS Reading/practice Handout COMMUNICATING WITH GRAPHS	-Reading/practice Handout COMMUNICATING WITH GRAPHS - Review - Handout Study Guide		
	LESSON 4: MEASUREMENT & CALCULATION **Optional Lesson Scientific Notation Accuracy & Precision Dimensional Analysis Problem Solving	- Scientific Notation - Sig Figs - Turtle Island Activity - Dimensional Analysis - Density Problems	LAB: Accuracy & Precision	- Quiz 4

Getting Started Assignments**Return the following with signatures (parents and you):**

____ Syllabus ____ Lab Safety Contract ____ Lab Fee (\$20.00)

Back**Properties of Matter - Pacing Guide (8 days) Started _____, Test date: _____**

Essential Question: How does the composition, structure, and interactions of matter explain the properties of matter and how can these properties be used to classify substances and predict their behavior?

Date	EXPLAIN - Lesson/Topics	EXTEND - Assignments	EXPLORE Lab/Demo	-Readings/Extra
3 days	INTRO TO MATTER Define Chemistry Matter & Energy Properties of the Elements Periodic Table	- HW: Vocabulary - Matter & Energy - Periodic Table Coloring - Properties of the Elements - The Elements - Lesson 1 Quiz	Demo: Conservation of Mass	- Welcome to Science - Introduction
2 days	STATES OF MATTER Matter and Thermal Energy Properties of Gases	- Matter and Thermal Energy - Properties of Gases - Lesson 2 Quiz	DEMO: Gas Demo	
4 days	CLASSIFICATION OF MATTER Pure vs Mixtures Properties of Matter	- Pure vs Mixtures - Intensive vs. Extensive - Chemical vs. Physical Properties - Chemical vs. Physical Change - FRQ - Lesson 3 Quiz	Act: Properties of Play Doh:	
1 days	LABORATORY Tools for Understanding Matter	- <u>Pre-lab Activity 1</u> - <u>Pre-lab Activity 2</u> - Lesson 4 Quiz	LAB: Safety Review LAB: Tools	<u>Virtual Lab</u>
1.5 Days	TEST Test Prep	- Study Guide - Practice Test	Test	

Vocabulary

Mass -

Volume -

Matter -

Density -

Atom -

Element -

Molecule -

Physical Property/change -

Chemical Property/change -

Intensive Property -

Extensive Property -

Temperature/heat -

Plasma -

Homogeneous vs. Heterogeneous -

Solution -

Pure Substance -

Chemical Compound -

Back**Atomic Structure - Pacing Guide (7 days + Test)****Essential Question: How do we know atoms exist, what are they made of & can count them**

Date	Lesson Topic	Assignments	Lab	Quiz/Test
	ATOMIC THEORY Introduction <u>How to Build a Universe?</u> Atomic Structure Valence Electrons Bohr Model Atomic Symbolism Development of Atomic Theory Modern of Atomic Theory Quantum Physics for Babies	- Atomic Structure - Bohr Model		Quiz 1
	ISOTOPES Isotopes Composition & Notation Average Atomic Mass/Atomic Weight Mass Spectrometry	- Isotope Composition - Average Atomic Mass - Mass Spec Data	LAB: Average Atomic Mass	Quiz 2

Vocabulary

Element -

Atom -

Nucleus -

Proton -

Neutron -

Electron -

Average Atomic Mass -

Isotope -

Isotope Notation -

The Mole/Avogadro's Number -

Molecule -

[Back](#)**Chemical Bonding - Pacing Guide (5 days + Test)**

Date	 Lesson Topic	 Assignments	 Lab	 Quiz/Test
	<u>PERIODICITY</u> - Development of the Periodic Table - Periodic Table Symbolism - Elemental Properties - Periodic Properties and Trend	-Vocabulary -Elemental Tale -Chemicool People -Periodic Trends	Lab: Periodic Trends Lab: Elemental Properties	-Quiz 1
	<u>CHEMICAL BONDING</u> Types of Chemical Bonds Ionic Solids Molecular Properties Lewis Structure	-Vocabulary - Bonding types - Ionic Solids - Metals and Alloys -Molecular Properties -Lewis Structure		-Quiz 2 -Practice Test

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Date	EXPLAIN Lesson/Topics	-EXTEND - Assignments	EXPLORE Lab/Demo	-Readings/Extra
	CHEMICAL AND PHYSICAL CHANGE Physical and Chemical Changes	- Chemical vs Physical Change		
	CHEMICAL EQUATIONS Representations of Reactions Law of Conservation of Mass Chemical Equations	- Balancing Equations I	LAB: - Law of Conservation of Mass	
	CHEMICAL REACTIONS Types of Chemical Reactions Acid-base Reactions Combustion Reactions	- Types of Chemical Reactions - Acid-base Reactions - Combustion Reactions	LAB: - Chemical Reactions Lab DEMO: - Combustion	

Back**Chapter 6 - Pacing Guide (3 days)**

Date	EXPLAIN Lesson/Topics	-EXTEND - Assignments	EXPLORE Lab/Demo	-Readings/Extra
	Nuclear Chemistry Introduction Radioactivity Fission and Fusion Half-life	Student Practice: Radioactivity Fission and Fusion Half-life	Radioactivity Lab	Radioactivity Article
	Nuclear Power Nuclear Power Everyday Radiation	Student Practice: Nuclear Power Everyday Radiation		

Vocabulary

Radioactivity -

Half-life -

Radioactive decay -

Alpha particles -

Beta particles -

Positrons -

Gamma -

Fission -

Fusion -

Electromagnetic radiation -

Emission -

Nuclear power -

Hydroelectric power -

Solar power -

Wind power -

Penetrability -

Fossil fuel combustion -

Decay series -

Back**Chapter 7 - Pacing Guide (10-11 days)**

Date	Lesson/Topics	EXPLORE - Activities	EXTEND - Practice	EVALUATE
	PHYSICS INTRODUCTION	Reading Discussion	Introduction to Physics	
	TIME What is Time?	Activity 1 - Significant Times Activity 2 - Reaction Time Activity 3 - One Second Clock	Period	Activity 4 Pendulum Parade
	SPACE Exploring space	Activity 1 - Flag Pole Trig Activity 2 - Length of Aluminum Wire	Right Triangle Trig	Activity Summary
	MASS What is mass?	Activity 1 - Aristotle vs. Galileo	Weight	Activity Summary
	TEMPERATURE What is heat?	Activity 1 - What is Heat? Activity 2 - Celcius to Fahrenheit	Temperature Conversions	Activity Summary

Vocabulary

Time -

Space -

Mass -

Temperature -

Back**Chapter 8 - Pacing Guide**

Date	Lesson/Topics	EXPLORE - Activities	EXTEND - Practice	EVALUATE
	REFERENCE FRAMES	Activity 1 Activity 2	Relative Motion	Activity Summary
	DISPLACEMENT	Activity 1 Activity 2 Activity 3	Displacement Calculations Displacement-Time Graphs	Activity Summary
	VELOCITY	Activity 1	Velocity Calculations Velocity-Time Graphs	Activity Summary
	ACCELERATION	Activity 1 Activity 2	UAM Examples UAM Calculations	Activity Summary
	2D MOTION	Activity 1 Activity 2	2D Calculations	
	MOTION GRAPHS		Motion Graphs	

Vocabulary

Distance -

Displacement -

Scalar -

Vector -

Speed -

Velocity -

Acceleration -

Equation of a line -

Slope -

Trend line -

Back**Chapter 9 - Pacing Guide**

Date	Lesson/Topics	EXPLORE - Activities	EXTEND - Practice	EVALUATE
	FORCES Introduction	Reading Discussion Guided Notes	Activity 1 - Free-Body Diagrams	Activity Summary
	NEWTON'S FIRST LAW Bodies at rest	Activity 1 - Bodies at Rest	NFL - Free-Body Diagrams NFL - Net Force NFL - Conceptual Review	Activity Summary
	NEWTON'S SECOND LAW Changes in motion.	Activity 1 - Force and Motion Activity 2 - Newton's Second Law	NSL - Calculations NSL - Conceptual Review	Activity Summary
	FRICTION What is friction?	Activity 1 - Coefficient of Friction	Friction Calculations	Activity Summary
	NEWTON'S THIRD LAW Exploring space	Activity 1 - Newton's Third Law	NFL - Conceptual Review	Activity Summary
	WEIGHT What is mass?	Activity 1 - Weight Versus Mass Activity 2 - Aristotle vs. Galileo	Weight Calculations	Activity Summary

Vocabulary

Weight -

Mass-

Gravity -

Acceleration -

Velocity -

Terminal velocity -

Free fall -

Friction, Static friction, Rolling friction, Fluid friction -

Inertia -

Force -

Balanced forces -

Unbalanced forces -

Net force -

Action-reaction pairs -

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Date	EXPLAIN - Lesson/Topics	EXTEND - Assignments	EXPLORE Lab/Demo	-Readings/Extra
	<u>WORK and ENERGY</u> Vocabulary Work Energy	- Work Conceptual Questions - Work and Power Calculations		Introduction Article: Energy
	<u>MECHANICAL ENERGY</u> Kinetic Energy Potential Energy	- Kinetic and Potential Energy - KE and PE Calculations	LAB:	
	<u>CONSERVATION OF ENERGY</u> Energy Conservation Energy Transformation Devices	- Energy at the Circus - Energy Transformation		
	<u>THERMODYNAMICS</u> Heat Transfer	- Heat Transfer		

Vocabulary

System -

Energy -

Mechanical -

Law of Conservation of energy -

Potential energy -

Kinetic energy -

Thermal energy -

Heat -

Work -

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Date	Lesson/Topics	EXPLORE - Activities	EXTEND - Practice	EVALUATE
	PHYSICS INTRODUCTION	Reading Discussion	Introduction to Physics	
	TIME What is Time?	Activity 1 - Significant Times Activity 2 - Reaction Time Activity 3 - One Second Clock	Period	Activity 4 Pendulum Parade
	SPACE Exploring space	Activity 1 - Flag Pole Trig Activity 2 - Length of Aluminum Wire	Right Triangle Trig	Activity Summary
	MASS What is mass?	Activity 1 - Aristotle vs. Galileo	Weight	Activity Summary
	TEMPERATURE What is heat?	Activity 1 - What is Heat? Activity 2 - Celcius to Fahrenheit	Temperature Conversions	Activity Summary

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Date	Lesson/Topics	EXPLORE - Activities	EXTEND - Practice	EVALUATE
	PHYSICS INTRODUCTION	Reading Discussion	Introduction to Physics	
	TIME What is Time?	Activity 1 - Significant Times Activity 2 - Reaction Time Activity 3 - One Second Clock	Period	Activity 4 Pendulum Parade
	SPACE Exploring space	Activity 1 - Flag Pole Trig Activity 2 - Length of Aluminum Wire	Right Triangle Trig	Activity Summary
	MASS What is mass?	Activity 1 - Aristotle vs. Galileo	Weight	Activity Summary
	TEMPERATURE What is heat?	Activity 1 - What is Heat? Activity 2 - Celcius to Fahrenheit	Temperature Conversions	Activity Summary