

Options FRMS Science 7A-OR		Scope and Sequence
Unit	Lesson	Objectives
Atoms and the Periodic Table		
Atomic Theory		
		Describe the development of the modern model of the atom.
		Compare the models of the atom put forth by Dalton, Thomson, Rutherford, and Bohr.
Atoms		
		Describe the parts of an atom.
		Identify the masses, locations, and charges of protons, neutrons, and electrons.
Elements		
		Examine the properties of an element.
		Describe what an isotope is and explain how isotopes of the same element are different.
		Explain how ions form.
Periodic Table		
		Examine the history of the periodic table.
		Describe the organization of the periodic table.
		Determine an element's symbol, atomic number, and mass number from the periodic table.
Metals		
		Describe the characteristic properties of metals.
		Identify the location of metals in the periodic table.
		Explain how and why the reactivity of metals changes in the periodic table.
Nonmetals		
		Describe the characteristic properties of nonmetals.
		Identify the location of nonmetals in the periodic table.

Options FRMS Science 7A-OR		Scope and Sequence
Unit	Lesson	Objectives
		Explain how and why the reactivity of nonmetals changes in the periodic table.
	Metalloids	
		Describe the characteristic properties of metalloids.
		Identify the location of metalloids in the periodic table.
		Explain why most metalloids are used as semiconductors.
	Unit Test	
Properties and Changes of Matter		
	States of Matter	
		Describe the arrangement and motion of atoms in the different states of matter.
		Discriminate the characteristics of solids, liquids, and gases.
	Changes of State	
		Describe what happens during the different changes of state.
		Explain how energy is related to changes of state.
	Conservation of Energy	
		Explain the law of conservation of energy.
		Apply the law of conservation of energy to solve problems.
		Use energy transfer diagrams to illustrate that energy is conserved.
	Phase Changes	
		Describe phase changes in terms of kinetic-molecular theory.
		Describe the energy changes that happen during changes of state.
		Science Practice: Make and interpret graphs of temperature vs. time for changes of state.
	Physical Properties	

Options FRMS Science 7A-OR		Scope and Sequence
Unit	Lesson	Objectives
		Describe and give examples of physical properties of matter.
		Explain what happens during a physical change.
		Identify examples of physical changes.
		Explain how and why matter is conserved during a physical change.
	Chemical Properties	
		Describe and give examples of chemical properties of matter.
		Explain what happens during a chemical change.
		Identify examples of chemical changes.
		Differentiate between physical and chemical changes
	Ionic Bonds	
		Describe characteristics of ionic bonds.
		Explain how ionic bonds form.
		Identify the properties of ionic compounds.
		Give examples of ionic compounds.
	Covalent Bonds	
		Describe characteristics of covalent bonds.
		Explain how covalent bonds form.
		Identify the properties of covalent compounds.

Options FRMS Science 7A-OR		Scope and Sequence
Unit	Lesson	Objectives
		Give examples of covalent compounds.
	Compounds	
		Describe the defining characteristics of a compound.
		Explain how chemical formulas represent compounds.
		Determine the number of atoms of each element in a chemical formula.
		Use models to visualize the chemical structure of a compound.
	Polymers	
		Explain the formation of polymers.
		Describe the uses of natural and synthetic polymers.
		Examine the benefits and limitations of using synthetic polymers.
	Unit Test	
Chemical Reactions		
	Introduction to Chemical Reactions	
		Recognize that a chemical reaction is a chemical change.
		Describe the evidence that shows that a chemical reaction has occurred.
		Explain the difference between an endothermic and an exothermic reaction.
	Describing Chemical Reactions	
		Identify the parts of a chemical equation.
		Describe the law of conservation of mass.
		Explain how mass is conserved in chemical equations.

Options FRMS Science 7A-OR		Scope and Sequence
Unit	Lesson	Objectives
	Types of Chemical Reactions	
		Distinguish among the types of chemical reactions.
		Predict the product of each type of chemical reaction.
	Photosynthesis	
		Explain the steps in the process of photosynthesis.
		Identify the products and reactants of photosynthesis.
	Cellular Respiration	
		Explain the steps in the process of cellular respiration.
		Identify the products and reactants of cellular respiration.
	Photosynthesis and Cellular Respiration	
		Illustrate and describe the energy conversions that occur during photosynthesis and respiration.
		Compare and contrast the processes of photosynthesis and cellular respiration.
		Science Practice: Evaluate data to formulate a conclusion.
	The Digestive and Excretory Systems	
		Identify the major structures and functions of the digestive system.
		Examine how food is physically and chemically broken down by the digestive system.
		Identify the major structures and functions of the excretory system.
		Analyze how the kidneys work.
	Unit Test	
The Earth's Changing Surface		
	Earth's Energy Budget	
		Describe what happens to incoming solar radiation when it reaches Earth.

Options FRMS Science 7A-OR		Scope and Sequence
Unit	Lesson	Objectives
		Identify factors that affect the absorption and reflection of incoming solar radiation.
		Analyze and describe Earth's energy budget.
		Explain the greenhouse effect.
	Weathering and Soil	
		Distinguish between mechanical and chemical weathering.
		Identify factors that affect the rate of weathering.
		Describe the characteristics of soil.
		Explain how soil is formed.
		Classify different types of soil.
	Water and Wind Erosion	
		Identify features that are formed by water erosion and deposition.
		Identify causes of groundwater erosion.
		Explain how glaciers and waves cause erosion and deposition.
		Describe the effects of wind erosion and deposition.
	Lab: Modeling Water Erosion	
		Identify factors that affect erosion and deposition by rivers.
		Model stream processes and observe stream behavior.
	Characteristics of the Seafloor	
		Describe the process of seafloor spreading.
		Describe evidence that supports seafloor spreading.
		Explain what occurs at deep-ocean trenches.
	Unit Test	

Options FRMS Science 7A-OR		Scope and Sequence
Unit	Lesson	Objectives
Cumulative Exam		
	Cumulative Exam Review	
	Cumulative Exam	