AVENTA LEARNING

Alignment Document
State of Oregon and Aventa Learning Physical Science

Physical Science
2005-2007 Benchmark Blueprint

Strand	Common Curriculum Goal	Content Standard	Standard	Unit Name	Course Topic Description
SC.CM.SI Scientific Inquiry	Formulate and express scientific questions or hypotheses to be investigated.	Make observations. Formulate and express scientific questions or hypotheses to be investigated based on the observations.	**SC.CM.SI.01** Based on observations and scientific concepts, ask questions or form hypotheses that can be answered or tested through scientific investigations.	Doing Science Doing Science Doing Science Doing Science Motion	Introductory Lab Bouncing Ball Lab Scientific Method Experimental Set Up Inertia Lab
SC.CM.SI Scientific Inquiry	Design safe and ethical scientific investigations to address questions or hypotheses.	Design scientific investigations to address and explain questions or hypotheses.	**SC.CM.SI.02** Design a scientific investigation that provides sufficient data to answer a question or test a hypothesis.		
SC.CM.SI Scientific Inquiry	Conduct procedures to collect, organize, and display scientific data.	Collect, organize, and display scientific data.	**SC.CM.SI.03** Collect, organize, and display sufficient data to facilitate scientific analysis and interpretation.	Doing Science Doing Science Motion	Introductory Lab Bouncing Ball Lab Inertia Lab
SC.CM.SI Scientific Inquiry	Analyze scientific information to develop and present conclusions.	Analyze scientific information to develop and present conclusions.	**SC.CM.SI.04** Summarize and analyze data, evaluating sources of error or bias. Propose explanations that are supported by data and knowledge of scientific terminology.	Doing Science Doing Science Motion	Introductory Lab Report Bouncing Ball Lab Report Inertia Lab Report
SC.CM.PS	Understand structure and	Understand structure and	**SC.CM.PS.01** Describe properties of	Matter	Classification of Matter

Physical Science	properties of matter.	properties of matter.	elements and their relationship to the periodic table.	Matter	The Periodic Table
			SC.CM.PS.01.01 Explain atoms and their base components (protons, neutrons, and electrons) as a basis for all matter.	Atomic Structure	Atomic Model
			SC.CM.PS.01.02 Read and interpret the periodic table, recognizing the relationship of the chemical and physical properties of the elements to their position on the periodic table.	Atomic Structure Atomic Structure Atomic Structure Atomic Structure	Electron Configuration and the Periodic Table Development of the Periodic Table Structure of the Periodic Table Periodic Trends
			SC.CM.PS.01.03 Recognize that the historical development of atomic theory demonstrates how scientific knowledge changes over time, and how those changes have had an impact on society.	Atomic Structure Atomic Structure	Discovery of the Atom Development of the Periodic Table
SC.CM.PS Physical Science	Understand chemical and physical changes.	Describe and analyze chemical and physical changes.	**SC.CM.PS.02** Analyze the effects of various factors on physical changes and chemical reactions.	Matter Chemical Reactions	Physical and Chemical Changes Reaction Rate
			SC.CM.PS.02.01 Describe how transformations among solids, liquids, and gases occur (change of state).	Matter	States of Matter
			SC.CM.PS.02.02 Identify factors that can influence change of state, including temperature, pressure, and concentration.	Matter	States of Matter
			SC.CM.PS.02.03 Describe chemical reactions in terms of reactants and products.	Chemical Reactions	Chemical Equations and Reactions
			SC.CM.PS.02.04 Describe the factors that affect the rate of chemical reactions.	Chemical Reactions	Reaction Rate

				Chemical Reactions	Equilibrium
			SC.CM.PS.02.05 Recognize examples that show when substances combine or break apart in a chemical reaction, the total mass remains the same (conservation of mass).	Chemical Reactions Chemical Reactions	Chemical Equations and Reactions Balancing Reactions
SC.CM.PS Physical Science	Understand fundamental forces, their forms, and their effects on motion.	Describe fundamental forces and the motions resulting from them.	**SC.CM.PS.03** Describe and explain the effects of multiple forces acting on an object.	Forces	Projectile Motion
			SC.CM.PS.03.01 Understand and apply the relationship F=ma in situations in which one force acts on an object.	Forces	Newton's Second Law of Motion
			SC.CM.PS.03.02 Recognize that equal and opposite forces occur when one object exerts a force on another.	Forces	Newton's Third Law of Motion
			SC.CM.PS.03.03 Describe the forces acting on an object, based on the motion of that object.	Motion Forces	Newton's First Law of Motion Projectile Motion
			SC.CM.PS.04 Recognize that gravity is a universal force.	Forces Forces	Newton's Second Law of Motion Gravity
			SC.CM.PS.04.01 Describe the relationship of mass and distance to gravitational force.	Forces	Gravity
SC.CM.PS Physical Science	Understand energy, its transformations, and interactions with matter.	Explain and analyze the interaction of energy and matter.	**SC.CM.PS.05** Describe differences and similarities between kinds of waves, including sound, seismic, and electromagnetic, as a means of transmitting energy.	Waves Waves Waves	Waves Sound Waves Electromagnetic Radiation
			SC.CM.PS.05.01 Recognize that waves of all kinds have energy that can be transferred when the waves interact with matter.	Waves Waves Waves	Waves Sound Waves Electromagnetic Radiation
			SC.CM.PS.05.02 Apply the concepts of frequency, wavelength, amplitude, and energy to electromagnetic and mechanical	Waves	Waves

			waves.		
			SC.CM.PS.06 Describe and analyze examples of conservation of energy.	Chemical Reactions	Energy and Chemical Reactions
			SC.CM.PS.06.01 Recognize that heat energy is a by-product of most energy transformations.	Chemical Reactions	Energy and Chemical Reactions
			SC.CM.PS.06.02 Describe ways in which energy can be transferred, including chemical reactions, nuclear reactions, and light waves.	Waves Waves Waves Chemical Reactions	Waves Sound Waves Electromagnetic Radiation Energy and Chemical Reactions
			SC.CM.PS.06.03 Explain the difference between potential and kinetic energy.	Energy	Potential Energy and Kinetic Energy
			SC.CM.PS.06.04 Analyze the flow of energy through a system by applying the law of conservation of energy.	Chemical Reactions Chemical Reactions	Energy and Chemical Reactions Equilibrium