



Alignment Document
State of Idaho and Aventa Learning Physical Science

Physical Science
2005-2007 Benchmark Blueprint

Standards	Goals	Benchmarks	Unit Name	Course Topic Description	
8-9.PS.1 Nature of Science	8-9.PS.1.1 Understand Systems, Order, and Organization	8-9.PS.1.1.1 Explain the scientific meaning of system, order, and organization.	Doing Science	Scientific Laws	
			Doing Science	Scientific Method	
		8-9.PS.1.1.2 Apply the concepts of order and organization to a given system.	Doing Science	Scientific Method	
	8-9.PS.1.2 Understand Concepts and Processes of Evidence, Models, and Explanations	8-9.PS.1.2.1 Use observations and data as evidence on which to base scientific explanations.		Doing Science	Introductory Physical Science Lab
				Doing Science	Bouncing Ball Lab
				Motion	Inertia Lab
				Forces	Acceleration of Gravity Lab
				Simple Machines	Bike Lab
			8-9.PS.1.2.2 Develop models to explain concepts or systems.		
			8-9.PS.1.2.3 Develop scientific explanations based on knowledge, logic, and analysis.	Doing Science	Introductory Physical Science Lab
	Doing Science	Bouncing Ball Lab			
	Motion	Inertia Lab			
	Forces	Acceleration of Gravity Lab			

			Simple Machines	Bike Lab
8-9.PS.1.3 Understand Constancy, Change, and Measurement	8-9.PS.1.3.1 Measure changes that can occur in and among systems.	Doing Science		Bouncing Ball Lab
		Simple Machines		Bike Lab
	8-9.PS.1.3.2 Analyze changes that can occur in and among systems.	Doing Science		Bouncing Ball Lab
		Simple Machines		Bike Lab
	8-9.PS.1.3.3 Measure and calculate using the metric system.	Doing Science		SI Prefixes
		Doing Science		Metric Conversions
		Doing Science		SI Conversion Problems
Matter			Measurements in Chemistry	
Matter			Using Units in Calculations	
		Matter		Uncertainty in Measurement
		Matter		Working with Numbers from Measurements in Calculations
8-9.PS.1.4 Understand the Theory that Evolution is a Process that Relates to the Gradual Changes in the Universe and of Equilibrium as a Physical State	No objectives in Physical Science.			
8-9.PS.1.5 Understand Concepts of Form and Function	No objectives in Physical Science.			
8-9.PS.1.6 Understand Scientific Inquiry and Develop Critical Thinking Skills	8-9.PS.1.6.1 Identify questions and concepts that guide scientific investigations.	Doing Science		The Scientific Method
		8-9.PS.1.6.2 Utilize the components of scientific problem solving to design, conduct, and communicate results of investigations.	Doing Science	Introductory Physical Science Lab
		Doing Science		Bouncing Ball Lab



			Motion	Inertia Lab
			Forces	Acceleration of Gravity Lab
			Simple Machines	Bike Lab
		8-9.PS.1.6.3 Use appropriate technology and mathematics to make investigations.	Doing Science	Introductory Physical Science Lab
			Doing Science	Bouncing Ball Lab
			Motion	Inertia Lab
			Forces	Acceleration of Gravity Lab
			Simple Machines	Bike Lab
		8-9.PS.1.6.4 Formulate scientific explanations and models using logic and evidence.	Doing Science	Introductory Physical Science Lab
			Doing Science	Bouncing Ball Lab
			Motion	Inertia Lab
			Forces	Acceleration of Gravity Lab
			Simple Machines	Bike Lab
		8-9.PS.1.6.5 Analyze alternative explanations and models.		
		8-9.PS.1.6.6 Communicate and defend a scientific argument.	Doing Science	Introductory Physical Science Lab
			Doing Science	Bouncing Ball Lab
			Motion	Inertia Lab
			Forces	Acceleration of Gravity Lab

			Simple Machines	Bike Lab
		8-9.PS.1.6.7 Explain the differences among observations, hypotheses, and theories.	Doing Science	Scientific Laws
			Doing Science	The Scientific Method
	8-9.PS.1.7 Understand That Interpersonal Relationships Are Important in Scientific Endeavors	No objectives in Physical Science.		
	8-9.PS.1.8 Understand Technical Communication	8-9.PS.1.8.1 Analyze technical writing, graphs, charts, and diagrams.	Simple Machines	Bike Lab
			Matter	Phase Changes
			Matter	Mass and Density Assignment
8-9.PS.2 Physical Science	8-9.PS.2.1 Understand the Structure and Function of Matter and Molecules and Their Interactions	No objectives in Physical Science.		
	8-9.PS.2.2 Understand Concepts of Motion and Forces	8-9.PS.2.2.1 Explain motion using Newton's Laws of Motion.	Motion	Motion
			Motion	Calculating Speed
			Motion	Acceleration
			Motion	Newton's First Law of Motion
			Forces	Newton's Second Law of Motion
			Forces	Projectile Motion
			Forces	Newton's Third Law
			Forces	Momentum
	8-9.PS.2.3 Understand the Total Energy in the Universe is Constant	8-9.PS.2.3.1 Explain that energy can be transformed but cannot be created nor destroyed.	Energy	Conservation of Energy
			Chemical Reactions	Energy and Chemical Reactions
		8-9.PS.2.3.2 Classify energy as potential	Energy	Potential Energy

		and/or kinetic and as energy contained in a field.	Energy	Kinetic Energy
	8-9.PS.2.4 Understand the Structure of Atoms	8-9.PS.2.4.1 Describe the properties, function, and location of protons, neutrons, and electrons.	Atomic Structure and the Periodic Table	Atomic Model
		8-9.PS.2.4.2 Explain the processes of fission and fusion.		
		8-9.PS.2.4.3 Describe the characteristics of isotopes.	Atomic Structure and the Periodic Table	Determining the Mass of an Atom
		8-9.PS.2.4.4 State the basic electrical properties of matter.	Atomic Structure and the Periodic Table	Atomic Model
		8-9.PS.2.4.5 Describe the relationships between magnetism and electricity.	Electricity & Magnetism	Static Electricity
			Electricity & Magnetism	Magnetism
	8-9.PS.2.5 Understand Chemical Reactions	8-9.PS.2.5.1 Explain how chemical reactions may release or consume energy while the quantity of matter remains constant.	Chemical Reactions	Law of Conservation of Mass
			Chemical Reactions	Energy and Chemical Reactions
8-9.PS.3 Biology	No goals or objectives in Physical Science.			
8-9.PS.4 Earth and Space Systems	No goals or objectives in Physical Science.			
8-9.PS.5 Personal and Social Perspectives; Technology	8-9.PS.5.1 Understand Common Environmental Quality Issues, Both Natural and Human Induced	No objectives in Physical Science.		
		8-9.PS.5.2 Understand the Relationship between Science and Technology	8-9.PS.5.2.1 Explain how science advances technology.	
			8-9.PS.5.2.2 Explain how technology advances science.	
			8-9.PS.5.2.3 Explain how science and technology are pursued for different purposes.	



	8-9.PS.5.3 Understand the Importance of Natural Resources and the Need to Manage and Conserve Them	No objectives in Physical Science.		
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