

Physical Science CR

State Standard Number	State Standard Area/Description	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.		
8-9.PS.1.1.2	Apply the concepts of order and organization to a given system.		
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.	Scientific Nature	Scientific Process
8-9.PS.1.2.2	Develop models to explain concepts or systems.	Scientific Nature	Scientific Process
8-9.PS.1.2.3	Develop scientific explanations based on knowledge, logic, and analysis.	Scientific Nature	Scientific Process
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.		
8-9.PS.1.3.2	Analyze changes that can occur in and among systems.		
8-9.PS.1.3.3	Measure and calculate using the metric system.	Scientific Nature	Scientific Process

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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		
0	No objectives in Physical Science.		
8-9.PS.1.5	Understand Concepts of Form and Function		
0	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.	Scientific Nature	Scientific Nature
8-9.PS.1.6.2	Utilize the components of scientific problem solving to design, conduct, and communicate results of investigations.		

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8-9.PS.1.6.3	Use appropriate technology and mathematics to make investigations.		
8-9.PS.1.6.4	Formulate scientific explanations and models using logic and evidence.		
8-9.PS.1.6.5	Analyze alternative explanations and models.		
8-9.PS.1.6.6	Communicate and defend a scientific argument.		
8-9.PS.1.6.7	Explain the differences among observations, hypotheses, and theories.	Scientific Nature	Scientific Beliefs, Laws, and Theories
8-9.PS.1.7	Understand That Interpersonal Relationships Are Important in Scientific Endeavors		
0	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.		

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8-9.PS.2	Physical Science		
8-9.PS.2.1	Understand the Structure and Function of Matter and Molecules and Their Interactions	Elements, Compounds and Mixtures	Atomic Theory Compounds and Bonds
0	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.	Energy in Motion	Newton's Laws of Motion
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.	Matter, Energy and Change	Energy Transformations and Conservation
8-9.PS.2.3.2	Classify energy as potential and/or kinetic and as energy contained in a field.		

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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.	Elements, Compounds and Mixtures	Atomic Theory
8-9.PS.2.4.2	Explain the processes of fission and fusion.	Chemical Reactions	Nuclear Reactions
8-9.PS.2.4.3	Describe the characteristics of isotopes.	Chemical Reactions	Nuclear Reactions
8-9.PS.2.4.4	State the basic electrical properties of matter.	Elements, Compounds and Mixtures Electricity and Magnetism	Atomic Theory Electricity
8-9.PS.2.4.5	Describe the relationships between magnetism and electricity.	Electricity and Magnetism	Magnets and Electromagnets
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	Types of Reactions

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8-9.PS.3	Biology		
0	No goals or objectives in Physical Science.		
8-9.PS.4	Earth and Space Systems		
0	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		
0	No objectives in Physical Science.		
8-9.PS.5.2	Understand the Relationship between Science and Technology		

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8-9.PS.5.2.1	Explain how science advances technology.	Scientific Inquiry	Technological Design
8-9.PS.5.2.2	Explain how technology advances science.	Scientific Inquiry	Technological Design
8-9.PS.5.2.3	Explain how science and technology are pursued for different purposes.	Scientific Inquiry	Technological Design Scientific Inquiry
8-9.PS.5.3	Understand the Importance of Natural Resources and the Need to Manage and Conserve Them		
0	No objectives in Physical Science.		