

PRESCOTT UNIFIED SCHOOL DISTRICT
2015-2016 District Instructional Guide
12/07/2015

Grade Level: High School	Subject: Advanced Integrated	Time: Full Year	Core Text: Pearson Prentice Hall Physical Science: With Earth and Space Science
---------------------------------	-------------------------------------	------------------------	--

Time	Unit/Topic	Standards	Assessments
Q1 Week 1	Classroom Protocol	S1C2PO1 Demonstrate safe and ethical procedures (e.g., use and care of technology, materials, organisms) and behavior in all science inquiry.	
Weeks 3-4	Properties of Matter	S5C1PO1 Describe substances based on their physical properties. S5C1PO2 Describe substances based on their chemical properties. S5C1PO4 Separate mixtures of substances based on their physical properties.	
Weeks 5-6	States of Matter	S5C5PO1 Describe various ways in which matter and energy interact (e.g., photosynthesis, phase change). S5C5PO4 Describe the basic assumptions of kinetic molecular theory. S5C5PO5 Apply kinetic molecular theory to the behavior of matter (e.g., gas laws) 11-12.WHST.9 Draw evidence from informational texts to support analysis,	

PRESCOTT UNIFIED SCHOOL DISTRICT
2015-2016 District Instructional Guide
12/07/2015

		reflection, and research.	
Q2 Weeks 1-1.5	Atomic Structure	S5C1PO8 Explain the details of atomic structure (e.g., electron configuration, energy levels, isotopes).	
Weeks 1.5-3	The Periodic Table	S5C1PO3 Predict properties of elements and compounds using trends of the periodic table (e.g., metals, non-metals, bonding-ionic/covalent). S5C1PO6 Describe the following features and components of the atom: <ul style="list-style-type: none"> ● protons ● neutrons ● electrons ● mass ● number and type of particles ● structures ● organization S5C1PO7 Describe the historical development of models of the atom. 11-12.RST.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.	
Weeks 4-5	Chemical Bonds	S5C4PO1 Apply the law of conservation of matter to changes in a system. S5C4PO3 Represent a chemical reaction by using a balanced equation.	
Weeks 6-7	Chemical Reactions	S5C4PO4 Distinguish among the types of bonds (i.e., ionic, covalent, metallic, hydrogen bonding).	

PRESCOTT UNIFIED SCHOOL DISTRICT
2015-2016 District Instructional Guide
12/07/2015

Week 8	Types of Chemical Reactions	<p>S5C4PO9 Predict the products of a chemical reaction using types of reactions (e.g., synthesis, decomposition, replacement, combustion).</p> <p>S5C4PO5 Describe the mole concept and its relationship to Avogadro's number.</p>	
Q3 Weeks 1-2	Motion	<p>S5C2PO1 Determine the rate of change of a quantity (e.g., rate of erosion, rate of reaction, rate of growth, velocity).</p> <p>S5C2PO2 Analyze the relationships among position, velocity, acceleration, and time:</p> <ul style="list-style-type: none"> • graphically • mathematically <p>11-12.RST.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11-12 texts and topics.</p>	
Weeks 3-6	Forces and Motion AND Forces in Fluids	<p>S5C2PO3 Explain how Newton's 1st Law applies to objects at rest or moving at constant velocity.</p> <p>S5C2PO4 Using Newton's 2nd Law of Motion, analyze the relationships among the net force acting on a body, the mass of the body, and the resulting acceleration:</p> <ul style="list-style-type: none"> • graphically • mathematically <p>ET.S2C2PO1 Communicate and collaborate for the purpose of producing original</p>	

PRESCOTT UNIFIED SCHOOL DISTRICT
2015-2016 District Instructional Guide
12/07/2015

		<p>works or solving problems.</p> <p>S5C2PO5 Use Newton's 3rd Law to explain forces as interactions between bodies (e.g., a table pushing up on a vase that is pushing down on it; an athlete pushing on a basketball as the ball pushes back on her).</p> <p>S5C2PO10 Describe the nature and magnitude of frictional forces.</p> <p>S5C2PO11 Using the Law of Universal Gravitation, predict how the gravitational force will change when the distance between two masses changes or the masses changes or the mass of one of them changes.</p>	
Weeks 7-8	Energy	<p>S5C3PO1 Describe the following ways in which energy is stored in a system:</p> <ul style="list-style-type: none"> • mechanical • electrical • chemical • nuclear 	
Q4 Weeks 1-2.5	Thermal Energy and Heat	<p>S5C3PO5 Analyze the relationship between energy transfer and disorder in the universe (2nd Law of Thermodynamics).</p>	
Weeks 2.5-5	Mechanical Waves and Sound	<p>S5C5PO2 Describe the following characteristics of waves:</p> <ul style="list-style-type: none"> • wavelength • frequency • period • amplitude <p>S5C5PO3 Quantify the relationships among the frequency, wavelength, and the speed of light.</p>	

PRESCOTT UNIFIED SCHOOL DISTRICT
2015-2016 District Instructional Guide
12/07/2015

		<p>11-12.WHST.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</p>	
<p>Weeks 6-8</p>	<p>Electricity</p>	<p>S5C5PO8 Describe the relationship among electric potential, current, and resistance in an ohmic system. S5C5PO9 Quantify the relationships among electric potential, current, and resistance in an ohmic system. ET.S6C1PO1 Describe how the components of a system are integrated using appropriate terminology.</p>	