

**Physical Science – Grade 9
District 2853**

Month	Content	Performance Standards Addressed	Skills for Student Achievement	Assessment
September	<ul style="list-style-type: none"> · Measurement Properties and Changes · Gas Laws 	Physical Science A-7 Physical Science C-5 Physical Science A-7 Physical Science C-5 History & Nature of Science A-1,5 History & Nature of Science C-2,3 History & Nature of Science D-1	<ul style="list-style-type: none"> · Recognize and use basic measuring devices · Estimate common distances · Convert prefixes · Determine volume of solids 2 ways · Calculate density · Distinguish between chemical and physical properties · Distinguish between chemical and physical changes · Use physical and chemical properties to distinguish an unknown · Describe Charles and Boyles Laws 	<ul style="list-style-type: none"> · Labs · Tests · Written assignments
September and October	<ul style="list-style-type: none"> · Atomic Structure and Nuclear Chemistry 	Physical Science A-1,3 Physical Science C-6,7 Physical Science E-1,2	<ul style="list-style-type: none"> · Describe Charles and Boyles Laws · Describe the appearance of atom · Determine atomic mass and atomic number · Describe 3 types of radiation · Writing nuclear equations · Describe fission and fusion · Describe half-life 	<ul style="list-style-type: none"> · Labs · Tests · Written assignments
October	<ul style="list-style-type: none"> · Classification of matter · Solutions · Using the Periodic Table 	Physical Science A-2,4,8,9 Physical Science B-1,3	<ul style="list-style-type: none"> · Distinguish between the 4 classes of matter · Use a chemical formula to identify the number of atoms, types of atoms, and number of molecules present · Describe makeup of solution · Identify the factors that affect solutions · Name the first 3 energy levels and the number of electrons in each · Determine oxidation numbers and valence numbers using the periodic table · Classify elements of metals, non-metals or metalloids 	<ul style="list-style-type: none"> · Labs · Tests · Written assignments
October	<ul style="list-style-type: none"> · Chemical Bonding · Solutions 	Physical Science A-5,6,7 Physical Science B-1,2	<ul style="list-style-type: none"> · Describe ionic, covalent, and metallic bonds · Write compound formulas from names · Construct electron dot diagrams · Determine how any 2 elements may bind and how many electrons 	<ul style="list-style-type: none"> · Labs · Tests · Written assignments

			are transferred or shared	
November	· Acids and Bases	Physical Science B-1,4,5	<ul style="list-style-type: none"> Identify the properties of acids and bases Use the pH scale to identify weak and strong acids and bases Recognize a neutralization reaction 	<ul style="list-style-type: none"> Labs Tests Written assignments
	· Carbon Chemistry		<ul style="list-style-type: none"> Describe the process of dissociation Identify types of carbon compounds Writing structural formulas Simple organic reactions 	<ul style="list-style-type: none"> Labs Tests Written assignments
December	· Motion		<ul style="list-style-type: none"> Describe motion using a frame of reference Calculate average speed and acceleration using a graph Explain distance, time graphs Explain acceleration of gravity 	<ul style="list-style-type: none"> Labs Tests Written assignments
January	<ul style="list-style-type: none"> Forces and Laws of Motion Forces in Fluids 	Physical Science C-9 Physical Science D-1	<ul style="list-style-type: none"> Explain Archimede's Principle Explain how hydraulic devices work State Bernoulli's Principle Explain how a plane can get off the ground Have an understanding of Newton's laws and how they relate to everyday occurrences Recognize examples of Newton's 3 laws Identify relationships between force and acceleration, mass and acceleration, and mass and inertia 	<ul style="list-style-type: none"> Labs Tests Written assignments
February	<ul style="list-style-type: none"> Work and Power Simple Machines Energy 	Physical Science C-1,2,5,9 Physical Science D-2 Physical Science E-1,2 History & Nature of Science B-1,3,4	<ul style="list-style-type: none"> Describe 3 ways a machine can change force Describe and identify 3 classes of levers List 5 types of energy and distinguish each State the law of conservation of energy and explain how it applies to energy conversion Identify the 2 ways energy can be transferred Describe differences and similarities of potential and kinetic energies 	<ul style="list-style-type: none"> Labs Tests Written assignments
March	· Electricity and Magnetism	Physical Science C-3,4	<ul style="list-style-type: none"> Describe static electricity Identify parallel and series circuits Associate Voltage, Amperage and resistance and types of current Describe relationship between electricity and magnetism Describe types of 	<ul style="list-style-type: none"> Labs Tests Written assignments

			magnetism	
April	· Heat Waves		<ul style="list-style-type: none"> · Describe how energy is transferred by heat · Distinguish between heat and temperature · Describe heat of fusion and vaporization for water · Describe molecule motion changes during phase changes · Describe and identify transverse and compression waves · Describe the law of reflection 	<ul style="list-style-type: none"> · Labs · Tests · Written assignments
May	· Sound Energy · Light Energy	Physical Science C-8	<ul style="list-style-type: none"> · Recognize the amplitude of loud and soft sounds · Recognize the frequency of high and low pitched sounds · Describe the production of light at the atomic level · Describe what happens when light strikes an object · Identify the 3 primary colors of light · Explain how light is refracted, diffracted, reflected and scattered · Use of prisms, mirrors and lenses 	<ul style="list-style-type: none"> · Labs · Tests · Written assignments