

Physical World Concepts Syllabus

David Crockett High School

Classroom procedures will be provided by each teacher. Each Instructor reserves the right to alter the pacing guide to suit the needs of the class.

Standards	Week	Topic	DCI	CCC	SEP	Labs/Phenomena/Activities	Assessment
PWC.PS2.11-13	1	Making measurements in Science Gravity, weight and mass	Motion and Stability Forces and Interactions	Structure and Function	Planning and Carrying Out investigations	Safety video	Lab Safety Exam Assessment over Lab Equipment, Procedures.
PWC.PS2.14-16	2	Density, Buoyant Force and Bernoulli's Principle.	Motion and Stability Forces and Interactions	Patterns Scale, Proportion, and Quantity Systems	Developing and Using Models Obtaining, Evaluating and Communicating Information	Density Lab Converting between units	Assessment over the Mass, Weight, Volume, Density and Buoyancy
PWC.PS3.4	3	Thermal Energy Transfer	Energy Motion and Stability; Forces and Interactions	Proportion, and Quantity Systems and System Models	Developing and Using Models Obtaining, Evaluating and Communicating Information	Heating Curve of Water. LOL Graphs Triple point of water in a Vacuum	Assessment over Thermal Transfer of Energy

PWC.PS1. 2 -3	4	Kinetic Molecular Theory and Molecular Motion	Matter and Its Interactions	Scale, Proportion, and Quantity	Using Mathematics and Computational Thinking	Create a pictorial model of the movement of matter on the microscale	Assessment over KMT Theory and Molecular Motion
PWC.PS3. 5-8	5	Conservation of Energy	Energy	Scale, Proportion, and Quantity Systems and System Models Flows, Cycles and Conservation	Developing and Using Models Obtaining, Evaluating and Communicating Information	Create a mathematical model of exo vs endo thermic energy	Assessment over Conservation of energy
PWC.PS3. 9-10	6	First and Second Law of Thermodynamics	Energy	Patterns Cause and Effect: Mechanism and Explanation Structure and Function Stability and Change	Developing and using Models Obtaining, Evaluating and Communicating Information	Calorimetry experiment	Assessment over Entropy and Enthalpy
PWC.PS2. 1-2	7	Motion and Stability Position, Displacement, Velocity. Acceleration and Time.	Motion and Stability Forces and Interactions.	Patterns Structure and Function Flows, Cycles and Conservation	Analyzing and interpreting Data	Creating Distance vs Time Graphs	Matter and Change Assessment

PWC.PS2. 3-5	8-9	Newton's Laws of Motion	Motion and Stability Forces and Interactions.	Patterns Cause and Effect: Mechanism and Explanation	Analyzing and Interpreting Data Developing and Using Models Constructing Explanations and Designing Solutions	"Suspended Quarter." Study in Inertia Why seatbelts are important	Assessment of Newton's three laws.
PWC.PS2. 6-7	10	Motion in Two Directions Force, acceleration and motion for an object undergoing uniform circular motion	Motion and Stability Forces and interactions	Cause and Effect: Mechanism And Explanation Scale, Proportion, and Quantity System and System Models Energy and Matter: Flows, cycles and Conservation	Analyzing and Interpreting Data Developing and Using Models Constructing Explanations and Designing Solutions	The case of the joy riding car jackers Lasso's, Merry Go Rounds and NASCAR	Assessment over Circular Motion

PWC.PS2. 8-10	11	Friction, Collisions, Momentum and Impulse	Motion and Stability	Scale, Proportion, and Quantity Systems and System Models	Developing and Using Models Engaging in Argument from Evidence	PASCO Smart Carts Labs	Assessment over Friction, Collisions and Momentum
PWC.PS3. 1-3	12	Energy review. Force, work, power, KE and PE	Energy	Scale Proportion and Quantity Energy and Matter: Flows, cycles and Conservation	Asking Questions and Defining Problems Using Mathematics and Computational Thinking	PASCO Smart Carts Build a paper roller coaster accounting for PE and KE	Assessment over Force, Work, Power
PWC.PS4. 1-2	13	Introduction to Waves	Waves and their Application	Scale, Proportion, and Quantity System and System Models Energy and	Analyzing and Interpreting Data Developing and Using Models Constructing Explanations and Designing	Build a paper model of the EM Spectrum	Assessment over Introduction of Waves

				Matter:	Solutions Engaging in Argument from Evidence Planning and Carrying out Investigations		
PWC.PS4.. 3, 7	14	Mechanical Waves Sound and the Doppler Effect	Waves and their Application	Patterns Cause and Effect Flows, cycles and Conservation	Analyzing and Interpreting data Constructing Explanations and Designing Solutions Using Mathematics and Computational Thinking Obtaining, Evaluating, and Communicating Information		Assessment over Sound
PWC.PS1. 1	15	Bohr Model of the Atom	Matter and its Interactions			Use manipulatives and PhET interactives to build atoms	Assessment over Bohr's Atom
PWC.PS4. 4=5	16	Electromagnetic waves	Waves and their	Patterns Cause and	Developing and using Models		Assessment over light and color

		Light and Color	Application	Effect: Mechanism and Explanation Structure and Function Stability and Change	Obtaining, Evaluating and Communicating Information Planning and Carrying Out Investigations		
PWC.PS.4. 6-7	17	Optics	Waves and their Application	Scale, Proportion and Quantity Energy and Matter: Flows, cycles, and Conservation	Analyzing and Interpreting Data Constructing Explanations and Designing Solutions Using Mathematics and Computational Thinking Obtaining, Evaluating and Communicating Information		Assessment over Optics
PWC.PS.4. 9	18	Polarization of waves	Waves and their Application	Patterns Cause and Effect:Mechanism And Explanation Systems and System Models Energy and	Analyzing and Interpreting data Constructing Explanations and Designing Solutions Using Mathematics and Computational Thinking		

				Matter: Flows, cycles and Conservation	Obtaining, Evaluating, and Communicating Information		
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[Link To TN PWC Standards. pp. 111-115](#)