

Wyoming Department of Education Required Virtual Education Course Syllabus

Park County School District # 1

Program Name	Park #1 Online	Content Area	Science
Course ID	OL5321	Grade Level	9th-12th
Course Name	FVS Physics I (S2)	# of Credits	0.5
SCED Code	03151G0.5022	Curriculum Type	Science

COURSE DESCRIPTION

Semester-long course purchased through Florida Virtual and used for our district students. In each module of Physics I, students discover the contributions of scientific geniuses like Galileo, Newton, and Einstein. Through their work, students learn the concepts, theories, and laws that govern the interaction of matter, energy, and forces. From tiny atoms to galaxies with millions of stars, the universal laws of physics are explained through real-world examples. Using laboratory activities, simulations, images, and interactive elements, students follow in the footsteps of some of the world's greatest thinkers.

WYOMING CONTENT AND PERFORMANCE STANDARDS

STANDARD#	BENCHMARK (Standard/Indicator) Use the Standards and Benchmarks as Spreadsheets
WY.1	Concepts and Processes
SC11.1	Earth and Space Systems, Geochemical Cycles
WY.2	Science as Inquiry
SC11.2	Students use research scientific information and present findings through appropriate means, Students use inquiry to conduct scientific investigations
WY.3	History and Nature of Science in Personal and Social Decisions
SC11.3	Students examine the nature and history of science, Students examine how scientific information is used to make decisions
WY.RST	Reading Standards for Literacy in Science and Technical Subjects
	Key Ideas and Details, Craft and Structure, Integration of Knowledge and Ideas, Range of Reading and Level of Text Complexity
WY.WHST	Writing Standards for Literacy in Science and Technical Subjects
	Text Types and Purposes, Production and Distribution of Writing, Research to Build and Present Knowledge, Range of Writing

SCOPE AND SEQUENCE

UNIT OUTLINE	STANDARD#	OUTCOMES OBJECTIVES/STUDENT CENTERED GOALS
04.01 Measuring Temperature	SC11.1 SC11.2 SC11.3 RST WHST	How do you measure temperature?
04.02 Absolute Zero	SC11.1 SC11.2 SC11.3 RST WHST	What is absolute zero?
04.03 Introduction to Heat	SC11.1 SC11.2 RST WHST	What is heat?
04.04 Heat Problems	SC11.1 SC11.2 RST WHST	What are some heat problems?
04.05 Conservation of Thermal Energy	SC11.1 SC11.2 RST WHST	What is the conservation of thermal energy?
04.06 What Do You Know About KE & GPE?	SC11.1 SC11.2 RST WHST	What do you know about KE and GPE?
04.07 Tutorial: KE and GPE	SC11.1 SC11.2 RST WHST	What is KE and GPE?
04.08 The KE and GPE Challenge	SC11.1 SC11.2 RST WHST	What is the KE and GPE challenge?
04.09 Introduction to Work	SC11.1 SC11.2 RST WHST	What is work?
04.10 Work and Power	SC11.1 SC11.2 RST WHST	What is the connection between work and power?
04.11 Mechanical Energy & Thermal Energy	SC11.1 SC11.2 SC11.3 RST WHST	What is the relation of mechanical and thermal energy?

04.12 Power Lab	SC11.1 SC11.2 RST WHST	
04.13 Hooke's Law	SC11.1 SC11.2 SC11.3 RST WHST	What is Hooke's Law?
04.14 Hooke's Law Lab	SC11.1 SC11.2 SC11.3 RST WHST	
04.14B Engineering Design I	SC11.2 SC11.3 RST WHST	
05.01 Find the Conductor	SC11.1 SC11.2 RST WHST	How do you find the conductor?
05.02 Circuit Builder	SC11.1 SC11.2 RST WHST	How do you build a circuit?
05.03 Bulb Basics	SC11.1 SC11.2 RST WHST	What are the basics of bulbs?
05.04 Electric Fields and Forces	SC11.1 SC11.2 SC11.3 RST WHST	What are electric fields and forces?
05.05 Wanda Wire and the Compass	SC11.1 SC11.2 SC11.3 RST WHST	What is Wanda wire and the compass?
05.06 Wanda Wire	SC11.1 SC11.2 SC11.3 RST WHST	What is Wanda wire?
05.07 Capacitor Basics	SC11.1 SC11.2 RST WHST	What are the basics of a capacitor?
05.08 The Air Capacitor	SC11.1 SC11.2 RST WHST	What is the air capacitor?
05.09 Capacitor Capers	SC11.1 SC11.2 RST WHST	What are capacitor capers?
05.10 Know Your Genecon	SC11.1 SC11.2 RST WHST	Do you know your Genecon?
05.11 Chandra Charge	SC11.1 SC11.2 RST WHST	What is Chandra charge?
05.12 Round and Long Bulb	SC11.1 SC11.2 RST WHST	What makes a round and long bulb?
05.13 Schematic School	SC11.1 SC11.2 RST WHST	What is schematic school?
05.14 Air Resistance	SC11.1 SC11.2 RST WHST	What is air resistance?
05.15 Simple DC Circuits	SC11.1 SC11.2 SC11.3 RST WHST	What are some simple DC circuits?
05.16 Series and Parallel Circuits	SC11.1 SC11.2 RST WHST	What are series and parallel circuits?
05.17 Lorenzo Light Bulb	SC11.1 SC11.2 SC11.3 RST WHST	What is a Lorenzo light bulb?
05.17B Engineering Design II	SC11.2 SC11.3 RST WHST	
06.01 Introduction to Simple Harmonic Motion	SC11.1 SC11.2 RST WHST	What is simple harmonic motion?
06.02 Pendulum Lab	SC11.1 SC11.2 RST WHST	What is a pendulum?
06.03 Introduction to Waves	SC11.2 RST WHST	What are waves?
06.04 Exploring Waves	SC11.2 SC11.3 RST WHST	What are waves?

06.05 Tsunamis	SC11.1 SC11.2 RST WHST	What are tsunamis?
06.06 Paul Hewitt's Concept Development Practice Pages 25-1	SC11.2 RST WHST	What is Paul Hewitt's concept development practice?
06.07 Wave Tutorial	SC11.1 SC11.2 RST WHST	What are the behaviors of waves?
06.08 Wave Problems	SC11.2 RST WHST	What are some wave problems?
06.09 Introduction to Ray Diagram Vocabulary and Variables	SC11.2 RST WHST	What is the ray diagram with its vocabulary and variables?
06.10 Ray Tracing Steps for Convex Lenses and Concave Mirrors	SC11.2 RST WHST	What are the ray tracing steps for convex lenses and concave mirrors?
06.11 Ray Tracing Practice	SC11.2 RST WHST	How do you do ray tracing?
06.12 The Lens and Mirror Equation	SC11.2 RST WHST	What is the lens and mirror equation?
06.13 Lens and Mirror Problem Solving	SC11.2 RST WHST	How do you solve problems regarding lens and mirrors?
06.14 Lens and Mirror Lab	SC11.2 RST WHST	
06.15 Introduction to Refraction	SC11.2 RST WHST	What is refraction?
06.16 Refraction Problems	SC11.2 SC11.3 RST WHST	What are some refraction problems?
06.17 Snell's Law	SC11.2 SC11.3 RST WHST	What is Snell's Law?
06.18 Wave Diffraction and Interference	SC11.2 SC11.3 RST WHST	What is wave diffraction and interference?
06.19 Interference Problems	SC11.2 SC11.3 RST WHST	What are some interference problems?
06.20 Wave Phenomena	SC11.2 RST WHST	What are the behaviors of waves?
06.20B Engineering Design III	SC11.2 SC11.3 RST WHST	
07.01 What Do You Know About "The Atomic Models"?	SC11.1 SC11.2 RST WHST	What are "The Atomic Models"?
07.02 Models of the Atom	SC11.1 SC11.2 SC11.3 RST WHST	What are some models of the atom?
07.03 Atomic Theory	SC11.1 SC11.2 SC11.3 RST WHST	What is the atomic theory?
07.04 Atoms and Molecules	SC11.1 SC11.2 RST WHST	What are atoms and molecules?
07.05 Fundamental Particles	SC11.1 SC11.2 SC11.3 RST WHST	What are fundamental particles?
07.06 Duality of Light	SC11.1 SC11.2 RST WHST	What is the duality of light?
07.07 What Do You Know About the "Photoelectric Effect"?	SC11.1 SC11.2 RST WHST	What do you know about the "Photoelectric Effect"?
07.08 Photoelectric Effect	SC11.1 SC11.2 RST WHST	What is the "Photoelectric Effect"?
07.09 Paul Hewitt's Light Quanta	SC11.1 SC11.2 RST WHST	What is Paul Hewitt's light quanta?
07.10 Photoelectric Effect Problems	SC11.1 SC11.2 RST WHST	What are some photoelectric effect problems?
07.11 Mass Defect and Binding Energy	SC11.1 SC11.2 RST WHST	What is mass defect and binding energy?

07.12 Radiation and Radioactivity	SC11.1 SC11.2 RST WHST	What is radiation and radioactivity?
07.13 Paul Hewitt's Natural Transmutation	SC11.1 SC11.2 RST WHST	What is Paul Hewitt's natural transmutation?
07.14 Radioactive Dating	SC11.1 SC11.2 RST WHST	What is radioactive dating?
07.15 Cell Phone Radiation Podcast Activity	SC11.1 SC11.2 RST WHST	What is cell phone radiation?
07.16 Radioactive Dating Lab	SC11.1 SC11.2 RST WHST	
07.17 Nuclear Fission vs. Nuclear Fusion	SC11.1 SC11.2 SC11.3 RST WHST	What is nuclear fission and nuclear fusion?
07.18 Special Relativity	SC11.1 SC11.2 SC11.3 RST WHST	What is special relativity?
07.19 Cosmology	SC11.2 SC11.3 RST WHST	What is cosmology?