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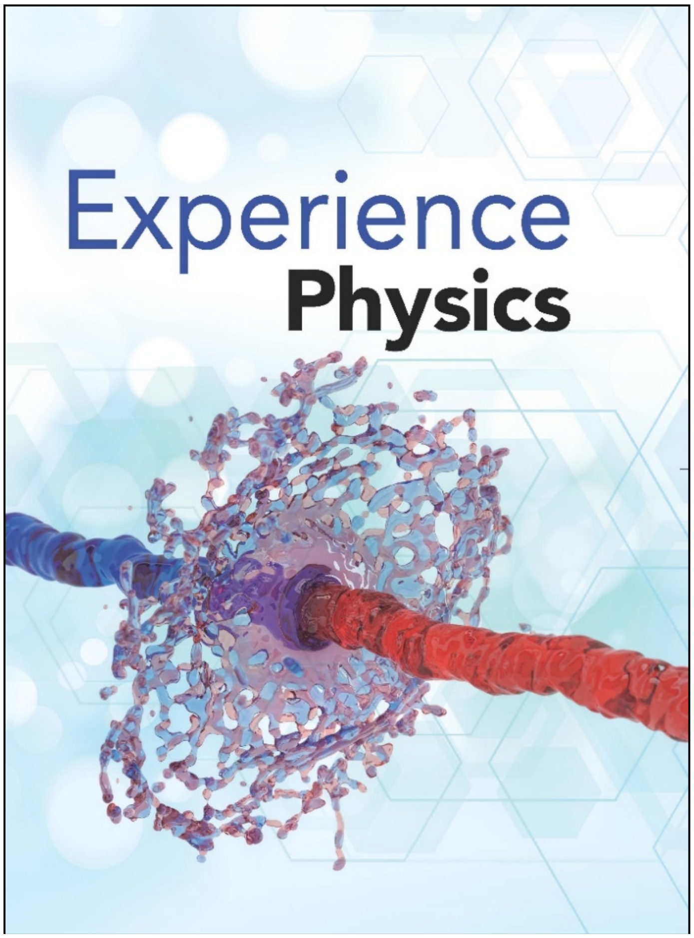

to the

Mississippi College- and Career-Readiness Standards for Science 2018 High School Physics

Prepared by Savvas Learning Company, formerly Pearson K12 Learning

A Correlation of Experience Physics ©2022 to the
Mississippi College- and Career-Readiness
Standards for Science 2018: Physics

Introduction

This document demonstrates how ***Experience Physics* ©2022** supports the Mississippi College- and Career-Readiness Standards for Science 2018: Physics. Correlation references include the Experience Notebook, Teacher Guide, and online digital assets.

Savvas Learning Company is excited to introduce ***Experience Physics***!

Students best learn science when they *do* science! Therefore ***Experience Physics*** puts the focus on the student experience. This modern program implements a learning model that organizes learning around phenomena giving students an authentic, real-world experience. ***Experience Physics*** includes a variety of hands-on and digital activities designed to reach every learner, and partners with Flinn Scientific to deliver high-quality inquiry labs, engineering workbenches, and performance assessments.

Phenomenal Experiences Begin with a relevant and engaging phenomenon. Learning is organized around learning around phenomena, giving students an authentic, real-world experience. ***Experience Physics*** includes a variety of hands-on and digital activities designed to reach every learner, encouraging students to ask and answer questions, gather evidence, and organize their reasoning as they experience the concepts of physics firsthand.

Flinn Scientific Partnership Labs, Engineering Workbenches, dataset activities, and performance tasks enhance the student experience and encourage your class to do more science! Hands-on inquiry labs are available in open-ended, guided, shortened, and advanced versions, perfect for meeting the needs of every student.

Personalize Instruction The Teacher Guide allows instructors to personalize their course by selecting from our activities or embedding their own. Enhance instructional plan with Got More Time? Activities, or substitute with Related Phenomena when you want to make a change! Additionally, storyline and Investigation Planners use the 5E model to streamline your prep time.

Build Mathematical Fluency Stepped-out examples in the Experience Handbook break down sample problems for clarity and process guidance, while math tutorial videos reinforce mathematical processes. The Physics and Math Skills Workbook includes four pages of review and practice problems for every learning experience. These activities and more guide students as they become more proficient with math and physics concepts.

Savvas Realize™ Award-Winning Digital Platform Access all your digital content, virtual labs, simulations, assessments, and student data in ONE location. Savvas Realize has offline accessibility, so students can study from anywhere.

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Linear motion of objects is described by displacement, velocity, and acceleration. These concepts should be introduced as computational and investigative phenomena.	
PHY.1: Students will investigate and understand how to analyze and interpret data.	
PHY.1.1: Investigate and analyze evidence gained through observation or experimental design regarding the one-dimensional (1-D) motion of objects. Design and conduct experiments to generate and interpret graphical evidence of distance, velocity, and acceleration through motion.	**Experience Notebook:** SEP Plan an Investigation, 5 **Teacher Guide:** **Digital Activities:** Displacement and Velocity, PhET Simulation **Inquiry Labs:** Motion Plots; Free Fall Acceleration
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DCI.PHY.3: Work and Energy	
Work and energy are synonymous. When investigating mechanical energy, energy is the ability to do work. The rate at which work is done is called power. Efficiency is the ratio of power input to the output of the system. In closed systems, energy is conserved.	
PHY.3: Students will develop an understanding of concepts related to work and energy.	
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Wave properties are the transfer of energy from one place to another. The investigation of these interactions must include simple harmonic motion, sound, and electromagnetic radiation.	
PHY.4: Students will investigate and explore wave properties.	
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DCI.PHY.5: Electricity and Magnetism	
In electrical interactions, electrical energy (whether battery or circuit energy) is transformed into other forms of energy. Charged particles and magnetic fields are similar in that they store energy. Magnetic fields exert forces on moving charged particles. Changing magnetic fields cause electrons in wires to move and thus create a current.	
PHY.5: Students will investigate the key components of electricity and magnetism.	
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PHY.5.9: Design and draw a schematic of a circuit that will turn on/off a light from two locations in a room like those found in most homes.	For supporting content, please see: **Experience Notebook:** Circuit Elements and Diagrams, 424-425 **Teacher Guide:** **Digital Activities:** Series and Parallel Circuits
DCI.PHY.6: Nuclear Energy	
Nuclear energy is energy stored in the nucleus of the atom. The energy holding atoms together is called binding energy. The binding energy is a huge amount of energy. So, at the subatomic scale, the conservation of energy becomes the conservation of mass-energy.	
PHY.6: Students will demonstrate an understanding of the basic principles of nuclear energy.	
PHY.6.1: Analyze and explain the concepts of nuclear physics.	**Experience Notebook:** The Nucleus, 570-571 Nuclear Mass and Energy, 575 Strong Force, 582-583 Binding Energy, 584-585 Nuclear Stability, 587-588 Nuclear Instability, 589-290 Weak Nuclear Force, 591-592 **Teacher Guide:** **Inquiry Labs:** Subatomic Particles; Forces and Atomic Nuclei **Digital Activities:** Nuclear Particles; Valley of Stability; Nuclear Forces **Performance-Based Assessments:** Model Nuclear Forces
PHY.6.2: Explore the mass number and atomic number of the nucleus of an isotope of a given chemical element.	**Experience Notebook:** The Nucleus, 570-571 SEP Develop Models, 571 **Teacher Guide:** **Digital Activities:** The Nucleus

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PHY.6.3: Investigate the conservation of mass and the conservation of charge by writing and balancing nuclear decay equations for alpha and beta decay.	**Experience Notebook:** Weak Nuclear Force, 591-592 CCC Energy and Matter, 591 Converting Mass to Energy, 594-595 Alpha Decay and Cluster Decay, 614 Beta Decay and Electron Capture, 615
PHY.6.4: Simulate the process of nuclear decay using online simulations and/or laboratory experiences and using mathematical computations determine the half-life of radioactive isotopes.	**Experience Notebook:** Weak Nuclear Force, 591-592 Exponential Decay, 612 CCC Stability and Change, 612 Sample Problem: Exponential Decay, 613 Alpha Decay and Cluster Decay, 614 Beta Decay and Electron Capture, 615 Gamma Decay, 616 **Teacher Guide:** **Inquiry Labs:** Half-Life Simulation; Radiometric Dating of Rocks **Digital Activities:** Radioactive Decay