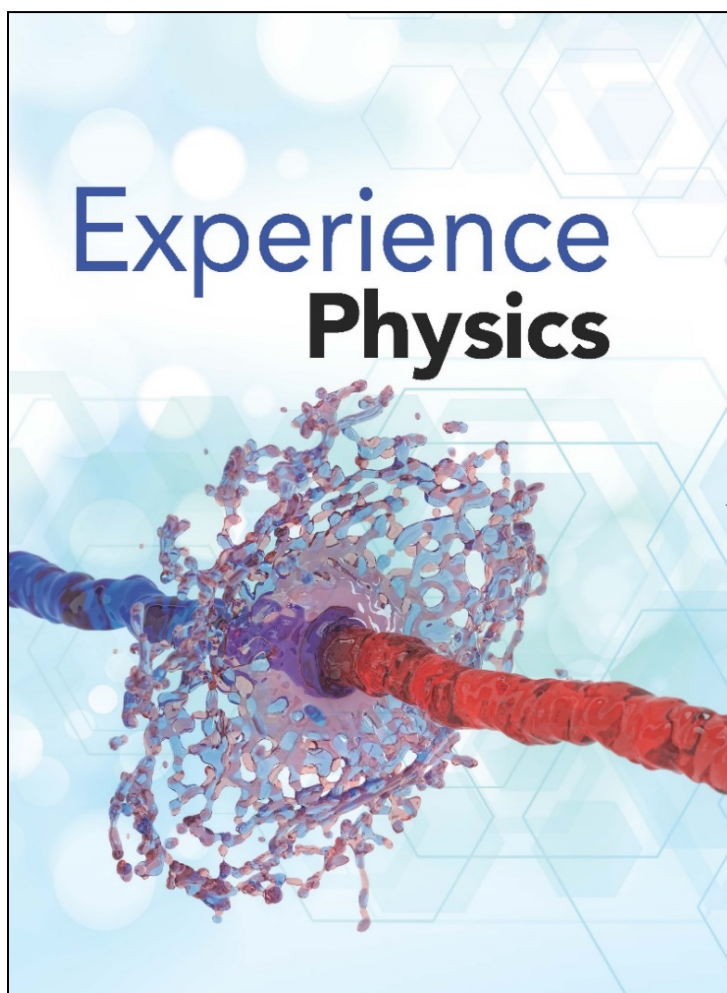


A Correlation of
Experience Physics
©2022



to the
Ohio Standards of Learning
for Science 2018
High School Physics

**A Correlation of Experience Physics ©2022
to the Ohio Standards of Learning for Science 2018
High School Physics**

Introduction

This document demonstrates how **Experience Physics ©2022** aligns with the Ohio 2018 Standards of Learning for Science: High School 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.

**A Correlation of Experience Physics ©2022
to the Ohio Standards of Learning for Science 2018
High School Physics**

Table of Contents

(P.M) Motion	4
(P.F) Momentum and Motion.....	6
(P.E) Energy.....	9
(P.W) Waves	11
(P.EM) Electricity and Magnetism.....	14

**A Correlation of Experience Physics ©2022
to the Ohio Standards of Learning for Science 2018
High School Physics**

Ohio Standards of Learning for Science 2018 High School Physics	Experience Physics ©2022
(P.M) Motion	
(P.M.1) Motion Graphs	
(P.M.1.a) Position vs. time	<p>Student Experience Notebook: Position Graphs, 12 SEP Develop a Model, 12 Speed and Velocity, 13 SEP Analyze and Interpret Data, 13 Sample Problem: An Ant on a Meter Stick, 14 Practice Problem, #13, 14 Position vs. Time, 16 SEP Develop a Model, 16 Practice Problems, #22, #23, 19 Revisit Investigative Phenomenon, #25, 20</p> <p>Teacher Guide: Inquiry Labs: Motion Plots Digital Activities: Position vs. Time Graphs; Acceleration; Acceleration on a Ramp</p>
(P.M.1.b) Velocity vs. time	<p>Student Experience Notebook: Speed and Velocity Graphs, 15 Velocity vs. Time, 17 SEP Construct an Explanation, 17 Sample Problem: Driving Distance, 18 Practice Problems, #19, #20, #21, 19 Revisit Investigative Phenomenon, #26, 20 Graphs of Changing Velocity, 22 Constant Acceleration, 26-27 SEP Develop a Model, 26 CCC Patterns, 26 Revisit Investigative Phenomenon, #49, #50, #51, 34</p> <p>Teacher Guide: Digital Activities: Acceleration; Acceleration on a Ramp</p>
(P.M.1.c) Acceleration vs. time	<p>Student Experience Notebook: Instantaneous Acceleration, 25 CCC Patterns, 25 Revisit Investigative Phenomenon, #71, 48</p> <p>Teacher Guide: Digital Activities: Acceleration</p>

**A Correlation of Experience Physics ©2022
to the Ohio Standards of Learning for Science 2018
High School Physics**

Ohio Standards of Learning for Science 2018 High School Physics	Experience Physics ©2022
(P.M.2) Problem Solving	
(P.M.2.a) Using graphs (average velocity, instantaneous velocity, acceleration, displacement, change in velocity)	<p>Student Experience Notebook: Position Graphs, 12 Sample Problem: An Ant on a Meter Stick, 14 Practice Problems, #13, 14 Speed and Velocity Graphs, 15 Sample Problem: Driving Distance, 18 Practice Problems, #19, #20, #21, 19 Revisit Investigative Phenomenon, #25, #26, 20 Instantaneous Velocity, 21 SEP Analyze and Interpret Data, 21 Graphs of Changing Velocity, 22 Acceleration, 23 Sample Problem: Rolling Down the Hill, 24 Practice Problems, #30, 24 Instantaneous Acceleration, 25 Constant Acceleration, 26-27 SEP Construct an Explanation, 27 Solving Nonuniform Motion Problems, 28 Sample Problem: A Scared Bunny, 29 Practice Problems, #38, #39, 29 Revisit Investigative Phenomenon, #49, #50, #51, 34</p> <p>Teacher Guide: Inquiry Labs: Motion Plots</p>
(P.M.2.b) Uniform acceleration including free fall (initial velocity, final velocity, time, displacement, acceleration, average velocity)	<p>Student Experience Notebook: Constant Acceleration, 26-27 Sample Problem: Hitting the Brakes, 30 Practice Problems, #40, #41, 30 Acceleration Due to Gravity, 31 Sample Problem: Smashing Watermelons, 32 Practice Problems, #43-#48, 33</p> <p>Teacher Guide: Inquiry Labs: Free Fall Acceleration Digital Activities: Fast Cars Performance-Based Assessments: Coin Drop</p>

**A Correlation of Experience Physics ©2022
to the Ohio Standards of Learning for Science 2018
High School Physics**

Ohio Standards of Learning for Science 2018 High School Physics	Experience Physics ©2022
(P.M.3) Projectile Motion	
(P.M.3.a) Independence of horizontal and vertical motion	<p>Student Experience Notebook: Projectile Motion, 38-39 SEP Use Computational Thinking, 38 Modeling Projectile Motion, 40 CCC Patterns, 40 Practice Problems, #64, 43 Revisit Investigative Phenomenon, #71, 48</p> <p>Teacher Guide: Digital Activities: Circular and Projectile Motion; Demonstrating the Components of Projectile Motion</p>
(P.M.3.b) Problem-solving involving horizontally launched projectiles	<p>Student Experience Notebook: Solving Projectile Motion Problems, 41 Sample Problem: Hang Time, 42 Practice Problems, #59-#64, 43 Revisit Investigative Phenomenon, #72, 48</p> <p>Teacher Guide: Inquiry Labs: Model Projectile Motion Performance-Based Assessments: Speed, Acceleration, and Trajectory</p>
(P.F) Momentum and Motion	
(P.F. 1) Newton's laws applied to complex problems	<p>Student Experience Notebook: Changing Motion, 52 Force Causes an Acceleration, 54 Sample Problem: Mowing the Lawn, 55 Practice Problems, #9, #10, 55 Momentum, 56 I Push You, and You Push Back, 57 Modeling Force, 60-61 Sample Problem: Will the Wire Break?, 62 Practice Problems, #21-#27, 63 Revisit Investigative Phenomenon, #30, 64 Solving Two-Dimensional Force Problems, 73 Sample Problem: Pulling a Sled, 74 Practice Problems, #44, #45, #47, #50, 75 Solving System Problems, 86</p> <p>Teacher Guide: Inquiry Labs: Forces and Motion; The Buoyant Force Performance-Based Assessments: Force, Mass, and Acceleration</p>

**A Correlation of Experience Physics ©2022
to the Ohio Standards of Learning for Science 2018
High School Physics**

Ohio Standards of Learning for Science 2018 High School Physics	Experience Physics ©2022
(P.F.2) Gravitational force and fields	<p>Student Experience Notebook: Gravitational Force, 118-119 Sample Problem: Earth and the Moon, 120 Gravitational Fields, 121-123 Revisit Investigative Phenomenon, #23, #25, #26, 128 Forces in Orbit, 131-133 Tides and Tidal Forces, 139 The Shape and Gravity of Earth, 140 Revisit Anchoring Phenomenon, #71, 153</p> <p>Teacher Guide: Inquiry Labs: Investigate Gravity Using Pendulums; Model the Orbital Motion of Planets Digital Activities: Universal Gravitation; Newton's Law of Universal Gravitation Performance-Based Assessments: Gravitational Forces on Satellites</p>
(P.F.3) Elastic forces	<p>Student Experience Notebook: Spring Force, 67 Sample Problem: Determining Springiness, 68 Elastic Potential Energy, 296-297</p> <p>Teacher Guide: Digital Activities: Masses and Springs; Pinball Launcher Model; Hooke's Law and Elastic Potential Energy</p>
(P.F.4) Friction force (static and kinetic)	<p>Student Experience Notebook: Surface Forces, 70-71 SEP Argue from Evidence, 71 Practice Problems, #46, #47, #48, 75 Revisit Investigative Phenomenon, #55, 78 Sample Problem: Disappearing Actor, 88 Practice Problems, #74, #75, #76, 89</p> <p>Teacher Guide: Inquiry Labs: Friction Digital Activities: Vehicle Stopping Distance; Introduction to Static and Kinetic Friction; Forces on Systems</p>

**A Correlation of Experience Physics ©2022
to the Ohio Standards of Learning for Science 2018
High School Physics**

Ohio Standards of Learning for Science 2018 High School Physics	Experience Physics ©2022
(P.F.5) Air resistance and drag	<p>Student Experience Notebook: Acceleration Due to Gravity, 31</p> <p>Teacher Guide: Digital Activities: Horizontal Motion of Falling Objects</p>
(P.F.6) Forces in two dimensions	
(P.F.6.a) Adding vector forces	<p>Student Experience Notebook: Representing Forces, 58 SEP Use Mathematics, 58 Modeling Force in Two Dimensions, 72 Sample Problem: Pulling a Sled, 74</p>
(P.F.6.b) Motion down inclines	<p>Student Experience Notebook: Revisit Investigative Phenomenon, #71, 48 Revisit Investigative Phenomenon, #28, 64 Surface Forces, 70-71 Revisit Investigative Phenomenon, #54, 78</p> <p>Teacher Guide: Inquiry Labs: Model Projectile Motion Performance-Based Assessments: Speed, Acceleration, and Trajectory</p>
(P.F.6.c) Centripetal forces and circular motion	<p>Student Experience Notebook: Circular Motion, 44-45 Sample Problem: Artificial Gravity, 46 Graphing Circular Motion, 47 SEP Argue from Evidence, 47 Centripetal Force, 76 Sample Problem: Sticking to the Wall, 77 Forces in Orbit, 131-133 Charged Particles in Magnetic Fields, 209</p> <p>Teacher Guide: Inquiry Labs: Model the Orbital Motion of Planets Digital Activities: Satellites in Circular Orbits; Circular and Projectile Motion</p>

**A Correlation of Experience Physics ©2022
to the Ohio Standards of Learning for Science 2018
High School Physics**

Ohio Standards of Learning for Science 2018 High School Physics	Experience Physics ©2022
(P.F.7) Momentum, impulse and conservation of momentum	<p>Student Experience Notebook: Introduction to Linear Momentum, 322 Momentum – a Vector Quantity, 323 SEP Use Mathematics, 323 Net Momentum, 324 SEP Use Mathematics, 324 Angular Momentum, 326 Impulse, 327 Angular Impulse, 328 SEP Construct an Explanation, 328 Revisit Investigative Phenomenon, #9, 329 Conserving Momentum, 331 SEP Argue from Evidence, 331 Sample Problem: Conserving Momentum in Space, 332 Conserving Angular Momentum, 333 Impulse-Momentum Theorem, 336-337 Impulse and Momentum in Collisions, 338 Revisit Anchoring Phenomenon, #53, 363</p> <p>Teacher Guide: Inquiry Labs: Momentum and Impulse During Collisions; Elastic and Inelastic Collisions Digital Activities: Momentum and Impulse; Momentum and Baseball; Conservation of Momentum; Kinetic Energy and Collisions Performance-Based Assessments: Build Your Own Egg-Transport Vehicle; Minimizing Car Crash Injuries</p>
(P.E) Energy	
(P.E.1) Gravitational potential energy	<p>Student Experience Notebook: Gravitational Potential Energy, 295 SEP Use Mathematics, 295 Revisit Investigative Phenomenon, #45, 308 Energy Transformed Within a System, 313 Revisit Investigative Phenomenon, #58, #60, #61, 318 Binding Energy, 584</p> <p>Teacher Guide: Digital Activities: Conservation of Energy</p>
(P.E.2) Energy in springs	<p>Student Experience Notebook: Elastic Potential Energy, 296-297 Sample Problem: Cart on a Spring, 298-299</p> <p>Teacher Guide: Digital Activities: Hooke’s Law and Elastic Potential Energy</p>

**A Correlation of Experience Physics ©2022
to the Ohio Standards of Learning for Science 2018
High School Physics**

Ohio Standards of Learning for Science 2018 High School Physics	Experience Physics ©2022
(P.E.3) Work and power	<p>Student Experience Notebook: Positive, Negative, and Zero Work, 282-283 Calculating Work, 284 Work Done by a Gas, 285-286 SEP Use Mathematics, 286 Kinetic Energy and the Work-Energy Theorem, 288 Sample Problem: Work Done on a Book, 290-291 Power, 292 Revisit Investigative Phenomenon, #20, #22, 293 Mechanical Energy and Work, 302-303 Power – The Rate of Energy Transfer, 316-317 SEP Use Mathematics, 317 Revisit Investigative Phenomenon, #59, 318</p> <p>Teacher Guide: Inquiry Labs: Gas Particles and Work Digital Activities: Classifying Energy and Work Performance-Based Assessments: Energy Conversion</p>
(P.E.4) Conservation of energy	<p>Student Experience Notebook: Sample Problem: Bowling Ball Bounce, 304-305 Energy – A Conserved Quantity, 309 SEP Construct an Explanation, 309 Revisit Investigative Phenomenon, #58, 318 The First Law of Thermodynamics, 376 Revisit Investigative Phenomenon, #26, 380 Converting Mass to Energy, 594-595 Fusion, 603-604 CCC Energy and Matter, 604</p> <p>Teacher Guide: Inquiry Labs: Pendulums and the Conservation of Energy Digital Activities: Conservation of Energy Performance-Based Assessments: Rocket Launch</p>

**A Correlation of Experience Physics ©2022
to the Ohio Standards of Learning for Science 2018
High School Physics**

Ohio Standards of Learning for Science 2018 High School Physics	Experience Physics ©2022
(P.E.5) Nuclear energy	<p>Student Experience Notebook: Nuclear Mass and Energy, 575 Converting Mass to Energy, 594-595 Nuclear Fission, 597 Chain Reactions, 598 Power From Nuclear Fission, 599 Sample Problem: Efficiency of Fuels: Nuclear vs. Hydrocarbon, 600 Practice Problems, #48, #49, 600 Fusion, 603-604 Revisit Investigative Phenomenon, #55, #57, 606</p> <p>Teacher Guide: Digital Activities: Generating Fission; Nuclear Reactions Performance-Based Assessments: Operate a Nuclear Fission Reactor Engineering Workbenches: Energy Production</p>
(P.W) Waves	
(P.W.1) Wave properties	<p>Student Experience Notebook: Properties of Waves, 467 SEP Use Mathematics, 467 Transverse Waves, 468-469 SEP Analyze and Interpret Data, 469 Sample Problem: Wave on a Rope, 470 Practice Problems, #8, #9, 470 Longitudinal Waves, 472-473 CCC Cause and Effect, 473 Sample Problem: Properties of Sound Waves, 474 Practice Problems, #13, #14, 474 Modeling Waves, 475 SEP Use Math, 475 Sample Problem: Modeling a Sound Wave, 476 Practice Problem, #20, 477 Revisit Investigative Phenomenon, #22, 478 Properties of EM Waves, 514-515</p> <p>Teacher Guide: Inquiry Labs: Mechanical Waves Digital Activities: Properties of Waves; Wave Speed Performance-Based Assessments: Discovering the Speed of Sound in Open Air</p>

**A Correlation of Experience Physics ©2022
to the Ohio Standards of Learning for Science 2018
High School Physics**

Ohio Standards of Learning for Science 2018 High School Physics	Experience Physics ©2022
(P.W.1.a) Conservation of energy	Student Experience Notebook: Properties of Waves, 467 Energy in Waves, 490-491
(P.W.1.b) Reflection	Student Experience Notebook: Standing Waves, 485 Reflection, 496-497 SEP Design a Solution, 497 Teacher Guide: Inquiry Labs: Reflection and Refraction
(P.W.1.c) Refraction	Student Experience Notebook: Probing Earth’s Interior, 396 Refraction, 498-499 SEP Use Mathematics, 499 Sample Problem: Determining the Index of Refraction, 500 Practice Problems, #50, #51, 500 Revisit Investigative Phenomenon, #66, 508 Teacher Guide: Inquiry Labs: Reflection and Refraction Digital Activities: Refraction – Snell’s Law; Wave Optics; Refraction; Refraction in Animals
(P.W.1.d) Interference	Student Experience Notebook: Modeling Wave Interactions, 482-483 SEP Develop a Model, 482 SEP Develop a Model, 483 Beats, 484 Wave Behavior of EM Radiation, 516 The Dual Nature of Light, 524-525 Teacher Guide: Inquiry Labs: Interference of Sound Waves Digital Activities: Interference; Laser Interference
(P.W.1.e) Diffraction	Student Experience Notebook: Probing Earth’s Interior, 396 Diffraction, 494-495 CCC Scale, Proportion, and Quantity, 495 Revisit Investigative Phenomenon, #65, 508 Wave Behavior of EM Radiation, 516 Teacher Guide: Inquiry Labs: Diffraction

**A Correlation of Experience Physics ©2022
to the Ohio Standards of Learning for Science 2018
High School Physics**

Ohio Standards of Learning for Science 2018 High School Physics	Experience Physics ©2022
(P.W.2) Light phenomena	
(P.W.2.a) Ray diagrams (propagation of light)	Student Experience Notebook: Properties of EM Waves, 514
(P.W.2.b) Law of reflection (equal angles)	Student Experience Notebook: Reflection, 496 Teacher Guide: Inquiry Labs: Reflection and Refraction
(P.W.2.c) Snell's law	Student Experience Notebook: Snell's Law, 499 SEP Use Mathematics, 499 Sample Problem: Determining the Index of Refraction, 500 Practice Problems, #50, #51, 500 Teacher Guide: Digital Activities: Refraction – Snell's Law
(P.W.2.d) Diffraction patterns	Student Experience Notebook: Diffraction, 494-495 CCC Scale, Proportion, and Quantity, 495 Wave Behavior of EM Radiation, 516 SEP Construct an Argument, 516 Teacher Guide: Inquiry Labs: Diffraction
(P.W.2.e) Wave—particle duality of light	Student Experience Notebook: Shortcomings of the Wave Theory, 520-521 Particles of Light, 523 SEP Argue from Evidence, 523 SEP Evaluate Claims, 521 The Dual Nature of Light, 524-525 CCC Patterns, 525 Revisit Investigative Phenomenon, #30, 528 Teacher Guide: Inquiry Labs: Particle Nature of Light Digital Activities: Particle-Wave Duality; Particle-Wave Duality Performance-Based Assessments: Particle-Wave Duality of Light
(P.W.2.f) Visible spectrum of color	Student Experience Notebook: Properties of EM Waves, 514-515 Particles of Light, 523 Color and Temperature of Stars, 669

**A Correlation of Experience Physics ©2022
to the Ohio Standards of Learning for Science 2018
High School Physics**

Ohio Standards of Learning for Science 2018 High School Physics	Experience Physics ©2022
(P.EM) Electricity and Magnetism	
(P.EM.1) Charging objects (friction, contact and induction)	<p>Student Experience Notebook: Charge by Contact, 163 SEP Argue from Evidence, 163 Charge by Induction, 164-165</p> <p>Teacher Guide: Inquiry Labs: Electric Charges and Coulomb's Law</p>
(P.EM.2) Coulomb's law	<p>Student Experience Notebook: Electric Force, 158-159 SEP Use Mathematics, 159 Sample Problem: Electric Force Between Particles, 161 Practice Problem, #10, 161 Comparing Electric and Gravitational Forces, 162 SEP Use Mathematics, 162 Revisit Investigative Phenomenon, #28, 170</p> <p>Teacher Guide: Inquiry Labs: Electric Charges and Coulomb's Law Digital Activities: Coulomb's Law; Introduction to Coulomb's Law Performance-Based Assessments: Build and Test an Electroscope</p>
(P.EM.3) Electric fields and electric potential energy	<p>Student Experience Notebook: Electric Field, 172 SEP Use Models, 172 Sample Problem: Electric Field Due to Two Charges, 173 Practice Problems, #34, #35, 173 Representing Electric Fields, 174 Field Lines for Multiple Charges, 175 SEP Use Math, 175 Conductors and Electric Fields, 176 Uniform Electric Fields, 177 Revisit Investigative Phenomenon, #50, 182 Electrostatic Potential Energy, 410 Energy Transformation, 411-412 Electric Potential Field, 414 Revisit Investigative Phenomenon, #15, #16, #17, 420</p> <p>Teacher Guide: Inquiry Labs: Electric Fields Digital Activities: Charges and Fields; Modeling Electric Fields; Electric Potential; Potential Difference in a Battery</p>

**A Correlation of Experience Physics ©2022
to the Ohio Standards of Learning for Science 2018
High School Physics**

Ohio Standards of Learning for Science 2018 High School Physics	Experience Physics ©2022
(P.EM.4) DC circuits	
(P.EM.4.a) Ohm's law	<p>Student Experience Notebook: Current and Resistivity, 189 Ohm's Law, 422 SEP Use Mathematics, 422 Ohmic Materials, 423</p> <p>Teacher Guide: Inquiry Labs: Energy Transmission in Circuits</p>
(P.EM.4.b) Series circuits	<p>Student Experience Notebook: Series Resistance, 190 SEP Construct an Explanation, 190 Circuit Elements and Diagrams, 424-425</p> <p>Teacher Guide: Inquiry Labs: Energy Transmission in Circuits Digital Activities: Electric Current; Series and Parallel Circuits; Electric Circuits; Energy in Electric Circuits; Series and Parallel Circuits; Digital Information</p>
(P.EM.4.c) Parallel circuits	<p>Student Experience Notebook: Parallel Resistance, 191 Circuit Elements and Diagrams, 424-425 Measurements for Circuits, 426 SEP Plan an Investigation, 426</p> <p>Teacher Guide: Inquiry Labs: Energy Transmission in Circuits Digital Activities: Electric Current; Series and Parallel Circuits; Electric Circuits; Energy in Electric Circuits; Series and Parallel Circuits; Digital Information</p>
(P.EM.4.d) Mixed circuits	<p>Student Experience Notebook: Sample Problem: Combining Series and Parallel Resistors, 192 Practice Problems, #63-#70, 192-193</p>

**A Correlation of Experience Physics ©2022
to the Ohio Standards of Learning for Science 2018
High School Physics**

Ohio Standards of Learning for Science 2018 High School Physics	Experience Physics ©2022
(P.EM.4.e) Applying conservation of charge and energy (junction and loop rules)	<p>Student Experience Notebook: Kirchoff's Loop Rule, 428 SEP Construct an Explanation, 428 Sample Problem: Applying Kirchoff's Loop Rule, 429 Practice Problem, #27, 429 Kirchoff's Junction Rule, 430 SEP Use Mathematics, 430 Sample Problem: Applying Kirchoff's Junction Rule, 432-433 Practice Problems, #29, #30, #31, 433</p> <p>Teacher Guide: Inquiry Labs: Energy Transmission in Circuits Digital Activities: Electric Circuits</p>
(P.EM.5) Magnetic fields	<p>Student Experience Notebook: Magnetic Fields, 203-204 SEP Develop a Model, 203 Modeling Multiple Magnets, 205 SEP Develop a Model, 205 Magnetic Fields from Moving Charges, 206 Charged Particles in Magnetic Fields, 209-211 Sample Problem: Cosmic Rays, 210 Practice Problems, #20, #21, 210 Revisit Investigative Phenomenon, #23, 212 Current and Magnetic Fields, 220-222 SEP Use Mathematics, 221 Sample Problem: Field Inside a Solenoid, 223 Practice Problem, #39, 223</p> <p>Teacher Guide: Inquiry Labs: Electromagnets and Magnetism Digital Activities: Magnetism; Magnetic Fields; Combining Magnetic Fields</p>

**A Correlation of Experience Physics ©2022
to the Ohio Standards of Learning for Science 2018
High School Physics**

Ohio Standards of Learning for Science 2018 High School Physics	Experience Physics ©2022
(P.EM.6) Electromagnetic interactions	<p>Student Experience Notebook: Magnetic Force on a Wire, 213-214 Torque on Loops, 216-217 SEP Develop a Model, 217 Modeling a Simple Motor, 219 Current and Magnetic Fields, 220-222 Revisit Investigative Phenomenon, #43, #44, 226 Electromotive Force, 229 Induction, 230-231 SEP Argue from Evidence, 231 Motational EMF, 232-233* Revisit Investigative Phenomenon, #62, 238 Direct Current Generators, 437 Revisit Investigative Phenomenon, #47, 444</p> <p>Teacher Guide: Inquiry Labs: Electromagnets and Magnetism; Induction of Electrical Current; Electric Motors and Generators Digital Activities: Magnetic Fields; Combining Magnetic Fields; Inducing Current; Magnetic Field in a Moving Wire Performance-Based Assessments: Build a DC Motor; Generator Testing Engineering Workbenches: Build a Flashlight Without Batteries</p>