**Assignment Checklist  
Physics**

**Key**

**INTRO:** Introduction, **WU**: Warm-Up, **CD**: Content, **PPT**: Presentation, **AC**: Application of Content, **S**: Summary, **PA**: Pre-Assessment, **MS**: Module Summary, **MT**: Module Test, **MAA**: Module Authentic Assessment, **MSI**: Module Scientific Investigation

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| **Topic/Page In Course** | | **Activity Title** | **Activity Type** | | **Total Points** | **Date Completed** | **Points Earned** |
| Module 1: Describing Motion | | | | | | | |
| PA | Pre-Assessment | | | Discussion |  |  |  |
| 1.1 WU | Position, Distance, and Displacement | | | Discussion |  |  |  |
| 1.1 AC | Position, Distance, and Displacement Scenarios | | | Questions |  |  |  |
| 1.2 AC | Kinematics (Virtual) | | | Scientific Investigation |  |  |  |
| 1.2 AC | Speed and Velocity Calculations | | | Problem Set |  |  |  |
| 1.3 AC | Acceleration Calculations | | | Problem Set |  |  |  |
| 1.4 WU | Modeling Linear Motion with Equations | | | Discussion |  |  |  |
| 1.4 AC | Problem Set | | | Equations |  |  |  |
| 1.5 AC | Freefall Scenarios | | | Questions |  |  |  |
| MAA | Olympic Runner Visit | | | Design an Experiment |  |  |  |
| MT | Module Test | | | Test |  |  |  |
| Module 2: Forces and Newton’s Laws | | | | | | | |
| 2.1 AC | Forces and Their Representation Calculations | | | Problem Set |  |  |  |
| 2.2 WU | Newton's First Law and Balanced Forces | | | Observation and Discussion |  |  |  |
| 2.2 AC | Newton's First Law and Balanced Forces Calculations | | | Problem Set |  |  |  |
| 2.3 AC | Newton’s 2nd Law (Virtual) | | | Scientific Investigation |  |  |  |
| 2.3 AC | Newton's Second Law and Unbalanced Forces Calculations | | | Problem Set |  |  |  |
| 2.4 AC | Forces at an Angle and Vectors Calculations | | | Problem Set |  |  |  |
| 2.5 WU | Application of Two Dimensional Forces | | | Crossword Puzzle |  |  |  |
| 2.5 AC | Application of Two Dimensional Forces Calculations | | | Problem Set |  |  |  |
| MAA | Forces and Acceleration in Objects | | | Photo Analysis |  |  |  |
| MT | Module Test | | | Test |  |  |  |
| Module 3: Motion in Two Dimensions | | | | | | | |
| 3.1 AC | Projectile Motion (Virtual) | | | Scientific Investigation |  |  |  |
| 3.1 AC | Principles of Projectile Motion Calculations | | | Problem Set |  |  |  |
| 3.2 AC | Horizontal Projectiles Calculations | | | Problem Set |  |  |  |
| 3.3 AC | Projectiles Launched at an Angle Calculations | | | Problem Set |  |  |  |
| 3.4 AC | Uniform Circular Motion  Calculations | | | Problem Set |  |  |  |
| 3.5 WU | Universal Gravitation | | | Videos and Discussion |  |  |  |
| 3.5 AC | Universal Gravitation Calculations | | | Problem Set |  |  |  |
| MAA | Physics Land Theme Park | | | Create Arcade Game |  |  |  |
| MT | Module Test | | | Test |  |  |  |
| MS | Course Survey | | | Survey |  |  |  |
| Module 4: Energy | | | | | | | |
| PA | Pre-Assessment | | | Discussion |  |  |  |
| 4.1 AC | Power Output (Hands-On) | | | Scientific Investigation |  |  |  |
| 4.2 WU | Energy | | | Flowchart |  |  |  |
| 4.2 AC | Energy Problems | | | Questions |  |  |  |
| 4.3 AC | Work-Kinetic Energy Theorem Calculations | | | Problem Set |  |  |  |
| 4.4 WU | Energy and Simple Harmonic Motion | | | Simulation and Discussion |  |  |  |
| 4.4 AC | Energy Skate Park (Virtual) | | | Scientific Investigation |  |  |  |
| 4.4 AC | Conservation of Mechanical Energy Calculations | | | Problem Set |  |  |  |
| MAA | Different Forms of Energy | | | Device Design |  |  |  |
| MT | Module Test | | | Test |  |  |  |
| Module 5: Impulse and Momentum | | | | | | | |
| PA | Pre-Assessment | | | Discussion |  |  |  |
| 5.1 WU | Impulse and Momentum | | | Simulation and Discussion |  |  |  |
| 5.1 AC | Impulse and Momentum Questions | | | Questions |  |  |  |
| 5.2 WU | Newton’s Third Law | | | Simulation |  |  |  |
| 5.2 AC | Newton’s Third Law Questions | | | Questions |  |  |  |
| 5.3 AC | Conservation of Momentum in Explosions | | | Questions |  |  |  |
| 5.4 WU | Conservation of Momentum in Collisions | | | Animation |  |  |  |
| 5.4 AC | Collision (Virtual) | | | Scientific Investigation |  |  |  |
| 5.4 AC | Conservation of Momentum in Collisions Questions | | | Questions |  |  |  |
| MAA | Purchasing a Vehicle | | | Note Cards |  |  |  |
| MT | Module Test | | | Test |  |  |  |
| MS | Course Survey | | | Survey |  |  |  |
| Module 6: Waves | | | | | | | |
| PA | Pre-Assessment | | | Observation and Discussion |  |  |  |
| 6.1 WU | It’s Time to Make Some Waves | | | Simulation |  |  |  |
| 6.1 AC | Wave Characteristics Questions | | | Questions |  |  |  |
| 6.2 WU | Wave Interference | | | Simulation and Summary |  |  |  |
| 6.2 AC | Wave Interactions Questions | | | Questions |  |  |  |
| 6.3 WU | Sound | | | Create a Musical Instrument and Discussion |  |  |  |
| 6.3 AC | Sound Questions | | | Questions |  |  |  |
| 6.4 AC | Light Waves Questions | | | Questions |  |  |  |
| 6.5 WU | The Electromagnetic Spectrum | | | Video and Discussion |  |  |  |
| 6.5 AC | Faraday’s Electromagnetic (Virtual) | | | Scientific Investigation |  |  |  |
| MAA | Earth | | | Presentation |  |  |  |
| MT | Module Test | | | Test |  |  |  |
| Module 7: Electricity – Currents and Circuits | | | | | | | |
| 7.1 CD | Balloon Simulation | | | Simulation |  |  |  |
| 7.1 AC | Charge | | | Illustration |  |  |  |
| 7.2 WU | Coulomb’s Law: Electric Force, Field and Potential | | | Discussion |  |  |  |
| 7.2 AC | Electric Field Hockey | | | Simulation and Summary |  |  |  |
| 7.3 AC | Electric Charge and Current (Hands-On) | | | Scientific Investigation |  |  |  |
| 7.3 AC | Appliances Calculations | | | Problem Set |  |  |  |
| 7.4 AC | Simple Circuits Calculations | | | Problem Set |  |  |  |
| 7.5 WU | Calculating Currents and Voltages | | | Self-Check |  |  |  |
| 7.5 AC | Combination Circuits | | | Summary |  |  |  |
| MAA | Electricity Comic | | | Comic |  |  |  |
| MT | Module Test | | | Test |  |  |  |
| Module 8: 20th Century Physics | | | | | | | |
| 8.1 AC | Photoelectric Effect | | | Simulation / Questions |  |  |  |
| 8.2 AC | Special Relativity Questions | | | Questions |  |  |  |
| 8.3 AC | Quantum Mechanics Questions | | | Questions |  |  |  |
| 8.4 AC | Nuclear Processes (Virtual) | | | Scientific Investigation |  |  |  |
| 8.4 AC | Radiation in Our World | | | Research |  |  |  |
| 8.5 AC | Modern Physics | | | Presentation, Video or Wiki |  |  |  |
| MAA | Quantum Mechanics Importance | | | Presentation |  |  |  |
| MT | Module Test | | | Test |  |  |  |
| MS | Course Survey | | | Survey |  |  |  |
| Module 9: Fluids | | | | | | | |
| PA | Pre-Assessment | | | Discussion |  |  |  |
| 9.1 AC | Pressure Calculations | | | Problem Set |  |  |  |
| 9.2 AC | Pascal’s Principle Questions | | | Questions |  |  |  |
| 9.3 AC | Density Questions | | | Simulation |  |  |  |
| 9.4 AC | Cartesian Diver (Hands-On) | | | Scientific Investigation |  |  |  |
| 9.4 AC | Bernoulli’s Principle Questions | | | Questions |  |  |  |
| MAA | Diving Trip | | | Travel Brochure |  |  |  |
| MT | Module Test | | | Test |  |  |  |
| Module 10: Optics | | | | | | | |
| 10.1 AC | Optical Tools | | | Building Activity |  |  |  |
| 10.2 AC | Mirror Selection | | | Drawing/Illustration |  |  |  |
| 10.3 WU | Refraction | | | Discussion |  |  |  |
| 10.3 AC | Refraction Calculations | | | Problem Set |  |  |  |
| 10.4 WU | Spherical Lenses | | | Discussion |  |  |  |
| 10.4 AC | Optical Tools | | | Building Activity |  |  |  |
| 10.5 AC | Lens and Mirror Equation and Ray Tracing Activity | | | Equations |  |  |  |
| MAA | Optics | | | Build a Telescope |  |  |  |
| MT | Module Test | | | Test |  |  |  |
| MS | Course Survey | | | Survey |  |  |  |

*\*Module 9 and 10 content is from the 2003 Virginia Physics Standards of Learning. Refer to the course outline for the full alignment of the 2003 and 2010 Virginia Physics Standards of Learning.*