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Physical Science Curriculum Guide Q3

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| TN Ready | Learning Target | Resources  Supplemental |
| Motion and Speed, Ch. 2 | | |
| 3202.3.1 Investigate the relationships among speed, position, time, velocity, and acceleration. | Investigate the factors that determine the speed of an object rolling down a ramp.  Distinguish between speed and velocity.  Interpret a position-time graph for velocity or a velocity-time graph for acceleration.  Solve application problems related to velocity and acceleration, using appropriate units of measurement (v=d/t, a=Δv/t).  Effectively solve for variables in problems involving velocity, acceleration, force, and momentum.  Demonstrate the relationship between speed and velocity.  Collect data to construct, analyze, and interpret graphs for experiments that involve distance, speed, velocity, and time. | 2-1 ppt and notes  2-2 and 2-3 ppt and notes  Formula Challenge  Speed Machine  Speed Lab  & Hot Wheel  Ch. 2 Review and Test |
| TN Ready | Learning Target | Resources  Supplemental |
| Forces in Motion, Ch. 3 | | |
| 3202.4.1 Explore the difference between mass and weight.  3202.3.1 Investigate the relationships among speed, position, time, velocity, and acceleration.  3202.3.2 Investigate and apply Newton’s three laws of motion.  3202.3.3 Examine the Law of Conservation of Momentum in real world situations.  3202.3.4 Interpret a position-time graph for velocity or a velocity-time graph for acceleration.  3202.3.5 Solve application problems related to velocity, acceleration, force, work, and power using appropriate units of measurement (v=d/t, a=Δv/t, F=ma, W=Fd, and P=W/t) | Distinguish between mass and weight using SI units.  Solve application problems related to acceleration and force using appropriate units of measurement (F=ma).  Build a device that will launch an object according to stated criteria and constraints.  Distinguish among the concepts inherent in Newton’s three laws of motion.  Choose a correct representation of the Law of Conservation of Momentum. | 3-1 ppt and notes  3-2 and 3-3 ppt and notes  Newton Lab  Newton’s Laws Flipbook  Great American Balloon Car Race  Video of Man in Freefall  Interpreting Distance-Time Graphs Activity  Ch. 3 Review and Test |
| TN Ready | Learning Target | Resources  Supplemental |
| Energy, Ch. 4 | | |
| 3202.4.2 Relate gravitational force to mass.  3202.3.3 Investigate the Law of Conservation of Energy | Identify the effects of gravitational force on a falling body or satellite.  Identify a scenario that illustrates the Law of Conservation of Energy.  Investigate energy transformations and conservation on a roller coaster ride, using a model, simulation or actual ride. | Ch. 4 ppt and notes  Energy Flow Chart Poster & Rubric  CPO Pendulum Lab  Questions for Energy video |
| TN Ready | Learning Target | Resources  Supplemental |
| Work, Power and Machines, Ch. 5 | | |
| 3202.4.3 Demonstrate the relationships among work, power, and machines. | Experiment with selected simple machines to discover the relationship between force and distance.  Solve problems related to force, work, and power.  Identify various types of simple machines.  Recognize the simple machines found in a compound machine.  Solve application problems related to mechanical advantage and the efficiency of simple machines, given appropriate equations (MA=FO/FI and Eff=WO/WI).  Design and construct a toy that uses simple machines | 5-1 and 5-2 ppt and notes  5-3 ppt and notes  Ch. 4 and 5 Review  Ch. 4 and 5 Test  Rube Goldberg Activity |
| TN Ready | Learning Target | Resources  Supplemental |
| Electricity and Magnetism, Ch. 7 | | |
| 3202.2.4 Probe the fundamental principles and applications of electricity. | Construct circuits described in circuit diagrams and solve application problems related to voltage, resistance, and current in a series circuit (V=IR).  Use print and electronic resources to research how a selected electrical safety device works. | Ch. 7 ppt. and notes  Blobz Guide to Electricity  http://www.andythelwell.com/blobz/ |