**Core Physics Lesson Plans Week of 9/3/2012**

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| **Agenda** | **Objective** | **Assignments** |
| **Monday** |  |  |
| * No School – Memorial Day |
| **Tuesday** |  |  |
| * No School – Teacher Day |
| **Wednesday** |  |  |
| * Introductions * Course Syllabus * True Colors Activity |
| **Thursday** |  |  |
| * Get to know you activity * Name Tag |
| **Friday** |  |  |
| * Spaghetti Lab |

**Core Physics Lesson Plans Week of 9/10/2012**

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| **Agenda** | **Objective** | **Assignments** |
| **Monday** | Be able to set up a whiteboard. Know the basic requirements for what should be in your composition books. | Have the Spaghetti Lab documented in your Comp. Book |
| * Wrap-up WB Discussion on The Spaghetti Lab * Intro Tower Lab |
| **Tuesday** | Identify strengths and weaknesses to scientific design. | List things that make good experimental design. |
| * Tower Lab |
| **Wednesday** | Begin to understand what relationships can be identified and the value of them. |  |
| * Introduction to Measurements and Relationship |
| **Thursday** | Make predictions about the relationship between variable | Document all relationship models in your Comp. Book |
| * Measureable Relationships Lab |
| **Friday** | Make predictions about the relationship between variable | Document all relationship models in your Comp. Book |
| * Measureable Relationships Lab |

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| **Physics: Warneck/DeHann** | | **Week: S1W3** | | |
| **Objective** | **Standards** | | **TEACH/ASSESS** | **HW** |
| **9/17/Monday**  Compare predictions to results from an experiment. Set up your assigned whiteboard. | **P1.1C** Conduct scientific investigations using appropriate tools and techniques (e.g., selecting an instrument that measures the desired quantity–length, volume, weight, time interval, temperature–with the appropriate level of precision).  **P1.2g** Identify scientific tradeoffs in design decisions and choose among alternative solutions.  **P1.2h** Describe the distinctions between scientific theories, laws, hypotheses, and observations. | | Gather any data you are missing from labs stations #1-6  Graph your data and draw conclusions. Create your assigned whiteboard |  |
| **9/18/Tuesday**  Connect relationships to graphical shape and mathematical models. | Whiteboard Discussion Stations #1-3 |  |
| **9/19/Wednesday**  Connect relationships to graphical shape and mathematical models. | Whiteboard Discussion Stations #4-6  Scientific Methods WS#1 | **SMW#1**  Due: 9/20/Thur |
| **9/20/Thursday**  Know what values are independent and dependent on a graph. | Using Excel For Graphical Analysis  Modeling Prediction Notes | **SMW#2**  Due: 9/21/Fri  **Quiz Tomorrow** |
| **9/21/Friday**  Gather basic information from graphs such as slope, I/D, meaning of y-int. | Go over WS#1-2  Quiz |  |

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| **Physics: Warneck/DeHann** | | **Week: S1W4** | | |
| **Objective** | **Standards** | | **TEACH/ASSESS** | **HW** |
| **9/24/Monday**  Develop a set of standard mathematical models for making predictions and data analysis. | **P1.1C** Conduct scientific investigations using appropriate tools and techniques (e.g., selecting an instrument that measures the desired quantity–length, volume, weight, time interval, temperature–with the appropriate level of precision).  **P2.2A** Distinguish between the variables of distance, displacement, speed, velocity, and acceleration.  **P2.3a** Describe and compare the motion of an object using different reference frames.  **P2.1C** Create line graphs using measured values of position and elapsed time. | | Mathematical Models Notes |  |
| **9/25/Tuesday**  Develop proportional reasoning skills. | Proportional Reasoning Worksheet | **SMW#3**  Due: 9/26/Wed |
| **9/26/Wednesday**  Create a working definition for frame of reference. | **PLC**  Go over SMW#3  “What about motion brainstorm?” |  |
| **9/27/Thursday**  Develop understanding of constant velocity. | “Buggy” Lab |  |
| **9/28/Friday**  Develop understanding of constant velocity. | “Buggy” Lab Whiteboard Discussion | **SMW#4** |

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| **Physics: Warneck/DeHann** |  |

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| **Physics: Warneck/DeHann** | | **Week: S1W5** | | |
| **Objective** | **Standards** | | **TEACH/ASSESS** | **HW** |
| **10/1/Monday**  Create a working definition for speed. Setup out Comp books for tomorrow’s lab. | **P1.1C** Conduct scientific investigations using appropriate tools and techniques (e.g., selecting an instrument that measures the desired quantity–length, volume, weight, time interval, temperature–with the appropriate level of precision).  **P2.2A** Distinguish between the variables of distance, displacement, speed, velocity, and acceleration.  **P2.3a** Describe and compare the motion of an object using different reference frames.  **P2.1C** Create line graphs using measured values of position and elapsed time. | | “Buggy” Pre-lab |  |
| **10/2/Tuesday**  Develop understanding of constant velocity. | “Buggy” Lab |  |
| **10/3/Wednesday**  Develop understanding of constant velocity. | “Buggy” Lab Whiteboard Discussion | **MW#1** |
| **10/4/Thursday**  Understand Motion Maps | Graphing Pretest |  |
| **10/5/Friday**  Use Motion Maps to describe the motion of objects. | The Physics of Homecoming |  |

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| **Physics: Warneck/DeHann** | | **Week: S1W6** | | |
| **Objective** | **Standards** | | **TEACH/ASSESS** | **HW** |
| **10/8/Monday**  Develop understanding of constant velocity. | **P1.1C** Conduct scientific investigations using appropriate tools and techniques (e.g., selecting an instrument that measures the desired quantity–length, volume, weight, time interval, temperature–with the appropriate level of precision).  **P2.2A** Distinguish between the variables of distance, displacement, speed, velocity, and acceleration.  **P2.3a** Describe and compare the motion of an object using different reference frames.  **P2.1C** Create line graphs using measured values of position and elapsed time. | | “Buggy” Whiteboard Discussion |  |
| **10/9/Tuesday**  Develop understanding of constant velocity. | “Buggy” Lab Practicum |  |
| **10/10/Wednesday**  Develop graphical representations of constant velocity using technology. | Motion Detector Activity |  |
| **10/11/Thursday**  Understand Motion Maps | Introduction to Motion Maps | **HW TBA** |
| **10/12/Friday**  Use Motion Maps to describe the motion of objects. | Motion Map Activity Page |  |

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| **Physics: Warneck/DeHaan** | | **Week: S1W7** | | |
| **Objective** | **Standards** | | **TEACH/ASSESS** | **HW** |
| **10/15/Monday**  Expand on concept of velocity-time graph representations. | **P2.1C** Create line graphs using measured values of position and elapsed time.  **P2.1D** Describe and analyze the motion that a position-time graph represents, given the graph.  **P2.1g** Solve problems involving average speed and constant acceleration in one dimension.  **P2.2C** Describe and analyze the motion that a velocity-time graph represents, given the graph. | | Reintroduce velocity-time graph representations, practice with *Moving Man* | Finish *Moving Man* worksheet. |
| **10/16/Tuesday**  Develop concept of motion map representations. | Introduce motion maps using balloon drop demonstration. |  |
| **10/17/Wednesday \*PLC** | ACT/MME Practice Day |  |
| **10/18/Thursday**  Practice with motion map and velocity-time graph models. | Expand on idea of motion maps; allow class time for motion map worksheet or displacement worksheet make-up. | Finish motion map worksheet. |
| **10/19/Friday**  Understand Motion Maps | Use motion sensors to reinforce motion map representations and velocity-time graph models. | Write a reflection of motion sensor activity in composition book. |

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| **Physics: Warneck/DeHaan** | | **Week: S1W8** | | |
| **Objective** | **Standards** | | **TEACH/ASSESS** | **HW** |
| **10/22/Monday**  Connect the idea of motion maps from velocity-time graph models. | **P1.1g** Based on empirical evidence, explain and critique the reasoning used to draw a scientific conclusion or explanation.  **P1.1h** Design and conduct a systematic scientific investigation that tests a hypothesis. Draw conclusions from data presented in charts or tables.  **P2.1A** Calculate the average speed of an object using the change of position and elapsed time.  **P2.1C** Create line graphs using measured values of position and elapsed time.  **P2.1D** Describe and analyze the motion that a position-time graph represents, given the graph. | | Materialize the idea of motion maps utilizing dots each second, arrows to indicate direction and stacked dots to represent a stop. | Motion Map Reading |
| **10/23/Tuesday**  Use motion sensors and skills from motion maps and velocity-time graphs to complete Activity 4. | Use motion sensors to reinforce position-time, velocity-time, and motion map models. Groups will use motion sensors to complete Activity 4. |  |
| **10/24/Wednesday**  Collaborate on understanding motion maps by discussing and making corrections on Activity 4. | Facilitate discussion of Activity 4. Students will be given this time to make *visible* corrections on their Activity. Review for the Unit 2 Test as a class. | Activity 4 due at the end of the hour. |
| **10/25/Thursday**  Collaborate with groups on concepts from Unit 2 in order to complete and discuss Activity 5. | Facilitate group work of Activity 5 as well as the resulting discussion. |  |
| **10/26/Friday**  Unit 2 Test | **Unit 2 Test** | Activity 5 is due at the beginning of the class period. |

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| **Physics: Warneck/DeHaan** | | **Week: S1W9** | | |
| **Objective** | **Standards** | | **TEACH/ASSESS** | **HW** |
| **10/29/Monday**  Demonstrate constructed knowledge of a particle with constant velocity on Part II of the Unit 2 Test. | **P2.1g** Solve problems involving average speed and constant acceleration in one dimension.  **P2.2A** Distinguish between the variables of distance, displacement, speed, velocity, and acceleration.  **P2.2B** Use the change of speed and elapsed time to calculate the average acceleration for linear motion.  **P2.2C** Describe and analyze the motion that a velocity-time graph represents, given the graph.  **P2.2e** Use the area under a velocity-time graph to calculate the distance traveled and the slope to calculate the acceleration. | | **Unit 2 Test: Part II** |  |
| **10/30/Tuesday**  Investigate motion that is not constant. | Cart on a Hill Lab. |  |
| **10/31/Wednesday \*PLC**  Discuss the investigation of motion that is not constant. | Whiteboard Discussion of Cart on a Hill Lab. |  |
| **11/1/Thursday**  Discuss the investigation of motion that is not constant. | Whiteboard Discussion of Cart on a Hill Lab. |  |
| **11/2/Friday** |  |  |