AP Physics 1 Unit Plan Spring 2020

Unit 0: Constant Velocity

AP Standards to be covered:

**3.A.1.1:** The student is able to express the motion of an object using narrative, mathematical, and graphical representations **[SP** **1.5,** **2.1,** **2.2]**

**3.A.1.2:** The student is able to design an experimental investigation of the motion of an object **[SP** **4.2]**

**3.A.1.3:** The student is able to analyze experimental data describing the motion of an object is able to express the results of the analysis using narrative, mathematical, and graphical representations **[SP** **5.1]**

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Topics to be covered:

1-D Kinematics

2-D Kinematics

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| Day | Date | EQ | Agenda | Std’s |
| 1 | 1/6 | How are experiments properly designed? | * Syllabus * Laptops: Register E-text/Mastering Physics * LAB: Constant Velocity Buggy * **HWk: You Tube: Velocity Speed Video with Questions** * **HWK: Mastering Physics velocity speed pre-lecture** * **HWK: Obtain Course Lab Notebook** |  |
| 2 | 1/7 | What conclusions can we make from experiments? | * Recap: speed vs velocity, dist vs disp, * Woksheet: Speed vs Velocity * Worksheet: Distance vs Displacement * **HWK: You Tune Graphing Video with Questions** * **HWK Mastering Physics Graphical Analysis** * **HWk: Obtain Course Lab Notebook** |  |
| 3 | 1/8 | What do graphs indicate about an object’s motion? | * Notes: Graphing and Motion Diagrams * Complete Constant Velocity Buggy Lab   To include all graphs   * Const V Problem set * Graphing Problem set | 3.A.1.1, 3.A.1.3 |
| 4 | 1/9 | How is constant velocity used in problem solving? | * Constant Velocity nTIPERs * Review * **HWk: finish lab write up** * **HWK Study for lab Quiz** | 3.A.1.1 |
| 5 | 1/10 | How well do you understand constant velocity motion? | * Turn in Labs * FRQ Practice * **LAB QUIZ** * Begin Unit 2 (Forces) | 3.A.1.1, 3.A.1.3 |

Know:

* + The types of motion (constant position, constant velocity)
  + Equations for constant velocity
  + Graphs of distance, and velocity, for each type of motion

Understand:

* + The difference between a vector and a scalar
  + The relationship between displacement and velocity, or distance and speed
  + The relationship between balanced force and constant velocity
  + Newton’s 1st and 3rd laws

Do:

* + Solve motion problems by selecting the correct basic equation based on given information
  + Determine the motion of an object based on a given motion graph
  + Be able to interpret multiple representations of motion such as graphs, motion maps, and equations.

 