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**
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| 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**
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| 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.

 