AP Physics 1 Unit Plan Spring 2020

Unit 2: Accelerated Motion and Unbalanced Forces

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]**

Topics to be covered

1-D Kinematics

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| 1 | 1/17FRI | How does accelerated motion differ from constant motion? | * Video: Crash Course Linear Acceleration
* Constant Acceleration Notes
* W/S: Acceleration
 | 3.A.1.1, 3.A.1.3 |
| 2 | 1/21TUE | How does accelerated motion differ from constant motion? | * Complete Constant Acceleration Graphing Activity
* Discuss Forces Test Results
* Notes: Derive Kinematic Equations
 | 3.A.1.1, 3.A.1.3 |
| 3 | 1/22WED | How is constant acceleration used in problem solving? | * Problem Set: Const Accel using Kinematic equations
* Activity: Acceleration
 | 3.A.1.1, 3.A.1.3 |
| 4 | 1/23THU | How is constant acceleration used in problem solving? | * Notes: Newtons 2nd law (LAB NOTEBOOK)
* Recap Accelration, Force and Mass
* Force Basics Video
 | 3.A.1.1, 3.A.1.3 |
| 5 | 1/24FRI | How can constant acceleration equations be applied? | * FRQ Graphical Analysis of Accel Motion
* NOTES: Forces and Incline
* W/S: Forces on an Incline
 | 3.A.1.1, 3.A.1.2, 3.A.1.3 |
| 6 | 1/27MON | How does 2-D motion differ from 1-D motion? | * Lab Quiz
* Incline Problems
* Notes: Friction
 | 3.A.1.1 |
| 7 | 1/28TUE | How does 2-D motion differ from 1-D motion? | * Friction Labs- Divided b/w ramp/static and sliding/kinetic groups
* Finish lab Calculations
 | 3.A.1.1 |
| 8 | 1/29WED | What steps are required to solve 2-D motion problems? | * Recap: Friction
* Multibody Forces
* Video: Multibody Forces
 | 3.A.1.1 |
| 9 | 1/30THU | How can we use 1-D and 2-D kinematics to describe motion? | * Modified Atwood Lab
 | 3.A.1.1, 3.A.1.2, 3.A.1.3 |
| 10 | 1/31FRI | What steps are required to solve 2-D motion problems? | * FRQ Friday- Lab group exchange info
 | 3.A.1.1, 3.A.1.2, 3.A.1.3 |
| 11 | 2/3MON |  | * Review
* Quiz
 | 3.A.1.1, 3.A.1.2, 3.A.1.3 |
| 12 | 2/4TUE |  | * TEST Accel Motion and Unbalanced Forces
 | 3.A.1.1, 3.A.1.2, 3.A.1.3 |

2-D Kinematics