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 | 1/17  FRI | 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 | 1/21  TUE | 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 | 1/22  WED | 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 | 1/23  THU | 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 | 1/24  FRI | 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 | 1/27  MON | How does 2-D motion differ from 1-D motion? | * Lab Quiz * Incline Problems * Notes: Friction | 3.A.1.1 |
| 7 | 1/28  TUE | 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 | 1/29  WED | What steps are required to solve 2-D motion problems? | * Recap: Friction * Multibody Forces * Video: Multibody Forces | 3.A.1.1 |
| 9 | 1/30  THU | 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 | 1/31  FRI | 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 | 2/3  MON |  | * Review * Quiz | 3.A.1.1, 3.A.1.2, 3.A.1.3 |
| 12 | 2/4  TUE |  | * TEST Accel Motion and Unbalanced Forces | 3.A.1.1, 3.A.1.2, 3.A.1.3 |

2-D Kinematics