Physics

Linear Kinematics Unit Syllabus

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| Block | Class | Due on this class (Suggested Practice) |
| **1**  **Sept**  **4/5** | -Course Policy/Index Cards  -Speed Trap/Uncertainty  -Tour of the Website assignment  -Data collection assignment for No reason to Speed Lab (NRTS) | **Bring:** Your smiling face  **Bring:** Paper and pencil and a calculator  **Turn in:** Completed information sheet  **Turn in:** Speed trap (In class) (indiv) |
| **2**  **Sept**  **6/9** | **DI**-Speed  **DI**-Review Dimensional analysis (DA)  **-Math pretest** | **Video (all):** Tour of the Website |
| **3**  **Sept**  **10/11** | **GW**-Work in groups on Speed and DA Quizlette and FA 2.1  -Group Quiz on Speed and DA  -NRTS and Homework reminder | **Turn in:** Speed and DA Quizlette |
| **4**  **Sept**  **12/13** | -Questions on FA 2.1?  -Google Classroom/Laptops/VF  **SA 2.1 Speed (30 minutes)**  -Work on No Reason To Speed Lab | **Turn in:** FA 2.1  (Practice 2.1 #1-8) |
| **5** Sept **16/17** | **DI** - Vector Velocity  **DI** - Complex Acceleration  -Finish No Reason to Speed lab?  **GW**-Work on Acceleration Quizlette | **VF: 2C - Simple Acceleration**  **Turn in:** No reason to Speed lab (indiv)  (Practice 2.1 #9-16) |
| **6**  **Sept**  **18/19** | **GW**-Finish Acceleration Quizlette  **GW**-FA 2.2 Acceleration | **Turn in:** Acceleration Quizlette |
| **7**  **Sept**  **20/23** | -Questions on FA 2.2?  **SA 2.2 Acceleration (30 minutes)**  **VF**-2G Slope and velocity  **DI**-Tangent lines | **Turn in:** FA 2.2  (Practice 2.2 #1-6) |
| **8**  **Sept**  **24/25** | **DI**-Qualitative Graphs  -Rangefinders and graphs  **GW**-Graphs of Motion | **VF: 2G, 2H Velocity graphs**  (Practice 2.2 #17-22) |
| **9**  **Sept**  **26/27** | -Moving Plots equipment demo  -Cha Cha Cha demo  **GW**-Labs |  |
| **10**  **Sept 30/**  **Oct 1** | **GW**-Labs | **Turn in:** Moving plots lab (Pairs)  **Turn in:** Cha Cha Cha Lab |
| **11**  **Oct**  **2/3** | **DI**-Example Problems  **GW**-How Far Quizlette | **VF: 2E Solving Kinematics** |
| **12**  **Oct**  **4/7** | **GW-**How Far Group Quiz  **GW**-Work on How Far Quizlette  **GW**-FA 2.3 |  |
| **13**  **Oct**  **8/9** | -Questions on FA 2.3?  **SA 2.3 Kinematics (30 minutes)**  **DI**-Free Fall Demos/Solving | **VF: 2F Free Fall Problems**  **Turn in:** How Far Quizlette  (Practice 2.3 #1-5, 21, 22) |
| **14**  **Oct**  **10/14** | -Reaction time lab demo  **GW**-Work on Free Fall Quizlette  **GW**-FA 2.4 | (Practice 2.3 #6-10, 23, 24) |
| **15**  **Oct**  **15/16** | **GW**-Reaction time lab  **GW**-Work on Free Fall Quizlette | **Turn in:** Free Fall Quizlette  **Turn in:** Reaction time lab (indiv)  (Practice 2.4 #1, 2, 3) |
| **16**  **Oct**  **17/18** | -Questions on FA 2.4?  **GW**-Free Fall Group Quiz  **SA 2.4 Free Fall (30 minutes)** | (Practice 2.4 #4, 5, 6**)**  **Turn in:** Air Rocket Lab (indiv) |
| **17**  **Oct**  **21/22** | -Air Rocket lab  -Air Rocket Calculations  **DI**-The Range Equation (Magic!!) |  |
| **18**  **Oct**  **23/24** | -Warmup – calculate angle  -Air Rocket Competition: Hitting a target |  |
| **1**  **Oct**  **28/29** | **DI-Vector Components**  **GW-**Where Oh Where am I? | **VF: 3C, 3D Vectors** |
| **2**  **Nov 1/**  **Oct 31** | **Demonstrations involving cider and slides** | **Bring a ceramic Mug** |
| **3**  **Oct 30/**  **Nov 4** | **DI-More Vector Components**  **GW**-Vector Quizlette |  |

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| Assignments   * 7 Labs:   + Speed Trap Lab – Timing cars, No handout /20 pts (indiv)   + No Reason to Speed Lab – Spreadsheet and questions /40 pts (indiv)   + Air Rocket Lab – Initial velocity outdoors, No handout /30 pts (indiv)   + Reaction Time Lab – Dropping meter stick /20 pts (indiv)   + Moving Plots Lab – tape timer and cart /40 pts (pairs)   + Cha3 /20 pts (group)   + Rocket Competition – No write-up required * 4 Formative Quizlettes (In class group work) (10 pts ea)   + Quizlette 2.1 - Speed   + Quizlette 2.2 - Acceleration   + Quizlette 2.3 - How Far   + Quizlette 2.4 - Free Fall * 4 Formative/Summative Assessments: (10 pts ea)   + 2.1 Speed   + 2.2 Acceleration   + 2.3 Basic Kinematics   + 2.4 Free Fall Kinematics | Handouts |