***Lesson Plans for the Week of: 11/14/16 Teacher: Hough Course: Physics Period: 3***

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| Elements ofa Lesson | **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** |
| Objective/Focus/Essential Question | PH.2e;5d,e--Calculate the net force on an object (nonzero) (spiral and extension from previous chapter)--apply the principle of falling objects to force diagrams | PH.5d,e-- analyze force diagrams with nonzero net force using Newton’s 2nd law  | PH.5d,e-- analyze force diagrams with nonzero net force using Newton’s 2nd law | PH.5d,e--Assess Newton’s 2nd law and net force | PH.4a,5c,e--hypothesize about the motion of a horizontally launched object |
| Lesson/Act.Type of Presentation | Whole group:Model how to calculate the net force on an object; note stepsIndividual:Student practice calculating the net force on an objectWhole group: Model application of principles of force diagrams, elevators, and Newton’s 2nd Law to problemsIndividual:Students will work #3 on worksheetWhole Group: Discussion of #4-5 on worksheet—falling objects  | Whole group:Discuss the force diagram homework from the previous dayModel how to analyze horizontal moving object (nonzero net force) (#6 on worksheet)Class discussion of net forceDiscussion of #8—scaffold the difference between the hill situation and the horizontal situation in the previous problem | Whole group:Go over homeworkSummarize the steps to complete the problemsWorksheet 2: Students apply the steps to solve | Whole group:Go over homework about force diagramsIndividual:Quiz about Newton’s 2nd law and calculating force | Whole group:Groups of students will model hypotheses to illustrate their answer to the following question: If 2 balls start at the same height, which will hit the ground first: a ball that is dropped or a ball that is launched horizontally (like pushed sideways off the end of a table)? Use launcher to confirm the real answerDefine projectile; give examples; path is called a trajectory and is parabolicExplain that the horizontal and vertical components of projectile motion are not connected: the horizontal component does not change; the vertical component falls like an object which has been dropped |
| Evaluation | Student accuracy and teacher observations | Student questions and comments |  | Quiz |  |
| Extension/Homework | p. 130 #1-4Finish #4-5 about falling objects for homeworkExtension: horizontal objects | #8 on ws1 | Finish ws 2Assessment during next class period |  |  |

Materials:

Monday: U5ws1; textbook

Tuesday: U5ws1 from physics modeling curriculum

Wednesday: ws2

Thursday: ws2

Friday: quiz 1