***Lesson Plans for the Week of: 11/28/16 Teacher: Hough Course: Physics Period: 3***

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| Elements ofa Lesson | **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** |
| Objective/Focus/Essential Question | PH.4a,5c,e--hypothesize about the motion of a horizontally launched object | PH.2e, 5eRecognize what makes something a projectileSolve horizontally launched projectiles problems  | PH.2e; 5ePractice solving horizontally launched projectiles | PH.4a;5eInvestigate the motion of Launched Projectiles | PH.2e; 5c,d,eReview for Test |
| Lesson/Act.Type of Presentation | Whole group:Go over quizStudents 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 | Whole group:Define 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 droppedNote the steps involved in solving problems involving horizontally launched projectilesModel: solving projectile problem p. 97#1Individual:Practice solving projectile problem p. 97#3Discuss p. 109 #30 Does dropped object or horiz lauched object have greater speed? (Review scalar aspect of speed and the consequences of vector aspect of velocity.) | Whole group:Take questions about homeworkIndividual:Practice problems about horizontally launched projectiles | Whole group:Hypothesize about launching arrangement that yields a projectile that travels: a) the highest; b) the farthest, horizontally (range); and c) the greatest combination of height and rangeSmall groups:Groups of students will take turns utilizing the launcher to answer the hypothesis questions.[2-3 students/group; Angles in degrees: 0, 30, 45, 60, 90]Whole group:Answer the hypothesis questions based on results from activity. | Small groups:Review for test--4 practice problems to solve (with discussion): Break into 2 groups: a) projectile problem and 1D F=ma problem (forces in 2 directions) b) 2D net force problem and one direction F =ma problemGroups will present results and reasoningWhole group:--Review vocabulary |
| Evaluation |  | Results of student practice | Student questions, processes, and accuracy of work  | Students responses |  |
| Extension/Homework |  | p. 97#2,4 p. 99#2 (bottom of page)p. 109-110 #31-32A |  |  |  |

Materials:

Monday: U5ws1; textbook

Tuesday: p. 97#2,4 p. 99#2 (bottom of page)p. 109-110 #31-32A

Wednesday:

Thursday: projectile launcher, student notebooks

Friday: