***Lesson Plans for the Week of: 1/23/17 Teacher: Hough Course: Physics Period: 3***

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| Elements of  a Lesson | **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** |
| Objective/  Focus/  Essential  Question | PH.2a;5g  --Define Power and know its units  --use Power in word problems | PH.2a;5g  Apply power equations to pumps moving water | PH.2a;5g;6a  --review for test | PH.2a; 5g; 6a;pre-6b  --test  --recognize the factors which affect momentum | PH.2a; 4a;5a; 6b  Understand the concept of momentum |
| Lesson/Act.  Type of Presentation | Individual:  Students will look up the definition, equations and SI units for power in the textbook p. 173-174 and write them in their notes  Whole group:  Explain power and give example of how work and force can be the same in two situations, but power is different  Sample: problem on p. 175#2  Individual:  Independent practice using the power equations | Go to stairway and have students calculate the power needed to lift 1 kg, at a constant speed, over a given distance  Explain how power equation can be used to solve the question of how much water a pump can move in a given amount of time—per student request  Discuss p. 182#36 in this context | Whole group  Go over the previous day’s practice using the power equations  Review main points of work and energy  Individual:  Practice solving a few assorted word problems from the work-energy unit  Whole Group:  Go over answers | Individual:  Take test about work, energy, and conservation of mechanical energy  Students will look up the following things about momentum on p. 190-191:   1. definition 2. SI units 3. equation 4. vector or scalar?   No differentiation | Individual:  Students will look up the following things about momentum on p. 190-191:   1. definition 2. SI unit,symbol 3. equation 4. vector or scalar?   Whole group:  Explain what momentum is  Model Sample problem: p. 191#1 emphasizing directionality (due to vector) and units  Explain the law of conservation of momentum (LCM)  a) State the LCM  b) Write the equation for the LCM  Whole group:  Apply the LCM equation:  1) Confirm the units of the variables in the equation;  2) Go over situations in which the LCM holds: collisions, and when objects push away from each other  3) Note that in LCM problems, there is no friction; friction prevents the law from working, and so the problem involves low friction situations like water, ice, and outer space  Model Sample problem: p. 201#1 |
| Evaluation |  |  | Teacher observation and student questions/ responses |  |  |
| Extension/  Homework | p. 175#1,2,5 all with scaffolding: in vertical movement, the force is the weight of the object; also be willing to use the equations of motion to find acceleration and displacement  extension: Adapt subsequent power lesson to include movement of water, per FA request |  |  | Post-test work is the introduction to tomorrow’s topic | p. 191#2,3; p. 215 #11a,b p. 201 #2,3; p. 216 #22a, 23 (emphasize showing correct math and correct directions, if applicable) |

Materials:

Monday: Call Pasco about rubber bands

Tuesday: : masses, string (or rope or twine), timer, meter stick, spring scale

Wednesday: review guide

Thursday: teacher-made test

Friday: