***Lesson Plans for the Week of: 3/6/17 Teacher: Hough Course: Physics Period: 3***

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| Elements of  a Lesson | **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** |
| Objective/  Focus/  Essential  Question | PH.10a;11a-c;12i  Review for test | PH.10a;11a-c;12i  test | PH.8a,b  a) define simple harmonic motion  b) explain how force and velocity change in simple harmonic motion  c) calculate period and frequency of an object with simple harmonic motion | PH.8a,b  a) review main features of waves;  b) differentiate between longitudinal and transverse waves | PH.8b,c  Understand light in terms of a wave model  apply the law of reflection for flat mirrors |
| Lesson/Act.  Type of Presentation | Whole group:  Go over inverse square law principles, Ohm’s Law, ciruits, and affiliated principles | Individual:  Test about Inverse square law, Ohm’s Law, and electrical circuits | Whole group:  a) Introduce the concept of simple harmonic motion  b)Discuss frequency and period of pendulum  c) Give equation for calculating period of pendulum  d) model sample problem | Whole group:  a) Explain that waves transfer energy between locations, but the medium itself does not move from the original location to the new location (example: tsunami)  b) Review the difference between transverse and longitudinal waves, and their parts  c) E (amplitude)2  d) Review wavelength, frequency and amplitude | Whole group:  1) Review:  Light is a transverse wave  Review relationship between wavelength and frequency;  2) Light is not a mechanical wave (It does not need a medium.).  2) intensity of light is related to the amplitude of the light waves  3) color of the light is related to the frequency of the light  4) color of object is the wavelength of light that is REFLECTED OFF the object  5) fun if time: color mixing with lights vs color mixing with pigments  --lights mix (like in a concert)  --pigments mix by subtraction  Explain and demonstrate the law of reflection using the flashlight and flat mirror |
| Evaluation |  |  |  |  |  |
| Extension/  Homework |  |  |  |  | Extension: Electromagnetic waves in next lesson |

Materials:

Monday: review guide

Tuesday: test

Wednesday: ring stand with string and washers; protractor; meter stick; timer; teacher-made reading guide

Thursday: wave apparatus; wave simulations on Phet

Friday: Teacher-made notes; art pastels; computer Word program—the custom color window; https://phet.colorado.edu/sims/html/color-vision/latest/color-vision\_en.html