Science 10
Wednesday May 10/17

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1. Assignment: Average Speed, Constant Velocity and Average Velocity
   Date - *Friday, May12/17*

2. Roller Coasters

Physics 112
Wednesday, May 10/17

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1. FA - Work

2. SA - U3S1 - Work, No Work, Etc.
   - <u>May 12/17</u>   *Fill in the blanks.*
                          Problems. (5)
                          max

3. Check:
   Worksheet - Kinetic Energy and Kinetic-Energy Theorem

4. Reference/Zero Lines

5. Gravitational Potential Energy - To Be Continued

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6. Work-Gravitational Potential Energy Theorem

7. Worksheet - GPE and Work-GPE Theorem

Formative Assessment - Work

1. How much work is done by you on a 15 N sack of potatoes while holding it for 3.0 minutes while standing in line at the grocery store? (0 J)

2. a) How much work was done by the force of gravity on an 18 kg object as it was lifted to a height of 2.3 m at a constant velocity? (4.1×10^2 J)

   b) What type of work was done by the force of gravity? Explain. (negative work - force of gravity and motion have opposite directions)

3. Sheila did 110 J of work to move a chair 2.40 m to the right. How much force did Sheila use to move the chair? (45.8 N)

Physics 122
Wednesday, May 10/17

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1. SA - Circular Motion and Heavenly Bodies

2. Questions?
    Worksheet - Mass on a Spring
    Worksheet - Pendulums
    Worksheet: SHM - Mixed Problems

3. Danielle's Question

4. FA - SHM

5. Worksheet ->Text: Page 536, PP #1-8

SHM-Problems (Mixed).

8. $m = 0.025 kg$

$A = 0.030 cm = 0.00030 m$

$T = 0.50 s$ $T = 2\pi \sqrt{\dfrac{m}{K \cdot A}}$

$a_{max} = ?$

$K = \underline{\qquad} \; N/m$

$F = Kx$

$F = KA$

$F_{net} = ma$

$F = Kx$ $F = ma$

FA - SHM

1. A mass of 1.53 kg is attached to a spring and the system is undergoing simple harmonic oscillations with a frequency of 1.95 Hz and an amplitude of 7.50 cm.
   a) What is the speed of the mass when it is 3.00 cm from its equilibrium position? (0.842 m/s)
   b) What is the total energy of the system? (0.646 J)

2. An 8.8 N object vibrates at the end of a horizontal spring along a frictionless surface. If the period of vibration is 1.1 s, what is the spring constant? (29 N/m)

3. A spring oscillates with a 0.5 kg mass at the same frequency as a 2.4 m long pendulum on Earth. What is the spring constant of the spring? (2 N/m)