Physics 112

Monday, November 27/17

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Blocked Off -> After School: Wednesday
Lunch - 1st Half: Thursday

1. Return Midterm Marks

2. Return -> FA - Momentum and Impulse

3. FA - Impulse-Momentum Theorem

4. Questions re Momentum or Impulse?

5. Worksheet - C5 - Impulse-Momentum Page 203: PP #33-35
   Worksheet - C5 - Momentum and Impulse-Momentum
   Page 209: PFU #37-45
   Multiple Choice - Momentum and Impulse
   Worksheet - Extra Momentum, Impulse and Impulse-Momentum Theorem

6. SA - U2 S3 -> Momentum, Impulse and Impulse-Momentum Thm
   MC and Problems
   Friday, December 1/17
   Review Learning Targets!

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7. Unit 3 - Work and Energy - Learning Targets/Tracking Form

8. U1-S3: Work - Concept Sheet

9. Work

10. Three Cases - No Work is Done

11. Types of Work: Positive and Negative

12. Work Done by Forces - F vs D Graphs

Formative Assessment -> Impulse-Momentum
Nov. 27/17

After a bat strikes a baseball, the baseball has a momentum of 5.0 kgm/s north. If the baseball has a mass of 100.0 g and experienced an impulse of 9.0 kgm/s north when hit, what was the initial velocity of the baseball? D3.7

Multiple Choice - Momentum + Impulse

1. D
2. C
3. B
4. A
5. B
6. B
7. C
8. A
9. D
10. C
11. C
12. D
13. D
14. C
15. B
16. C
17. C
18. C
19. D
20. C

Physics 122

Monday, November 27/17

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Blocked Off -> After School: Wednesday

Lunch - 1st Half: Thursday

1. Return -> FA - SHM (Pendulum and Mass on a Spring)

2. Questions?
   Worksheet - PP #1-4 (Mass on a Spring)
   PFU #23-27, 30 (Mass on a Spring and Pendulums)

3. FA - SHM and Energy

4. U2 - Section 4: Projectiles

5. Terms to Know

6. Projectile Fired Horizontally

7. Formulas: Horizontal Projectiles

8. Example - Horizontal Projectile

9. Worksheet - Horizontal Projectiles - PP #1-8 HW

Formative Assessment -> SHM and Energy
Nov. 27/17

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?
b) What is the total energy of the system?

Science 10

Monday, November 27/17

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Monday and Wednesday - After School -> Blocked Off

1. Return - FA - Certainty and Precision Rules
2. Worksheets - Rearranging Equations - P5
3. Metric Conversions
4. Worksheets - Metric Conversions - P4
5. SA - Physics #1 - Topics - Review for HW

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6. Physical Quantities - Definitions, Variables and Units
7. Graphing Basics

Formative Assessment - Certainty and Precision Rules
Nov. 23/17

Name - _____

Report final answers to the correct number of signi digits.

a) 465.8 km ÷ 5.57 h = 83.626570 92

4 SD 3 SD 83.6 km/h

b) 7.52 cm + 8.678 cm + 0.2 cm = 16.398 cm

2 ← 3 ← 1 ← 16.4 cm.

c) Name the rule you used in (b).

↳ Precision.

Worksheet

1st Sheet - 2nd Side.

g) $E_K = \frac{1}{2}mv^2$ [v]

$2E_K = mv^2$

$\frac{2E_K}{m} = v^2$

$\sqrt{\frac{2E_K}{m}} = \sqrt{v^2}$

$\sqrt{\frac{2E_K}{m}} = v$

k) $v_f^2 = v_i^2 + 2ad$ [d]

$v_f^2 - v_i^2 = 2ad$

$\frac{v_f^2 - v_i^2}{2a} = \frac{2ad}{2a}$

$\frac{v_f^2 - v_i^2}{2a} = d$ ✓

$d = \frac{v_f^2 - v_i^2}{2a}$

Page 3

t) $\frac{f_o}{f_s} = \frac{v + v_o}{v - v_s}$ [v_s]

$f_o(v - v_s) = f_s(v + v_o)$

$v - v_s = \frac{f_s(v + v_o)}{f_o}$

$v = \frac{f_s(v + v_o)}{f_o} + v_s$

$v - \frac{f_s(v + v_o)}{f_o} = v_s$

$p = mv$ [v]

$v_f = v_i + at$ [a]

$E_K = \frac{1}{2}mv^2$ [v]

$v_f^2 = v_i^2 + 2ad$ [a]

SA - Physics #1 - Topics

1. definitions: physics, linear motion, physical quantity, significant digits, certainty, exact value, defined value, rounding digit, defining equation

2. SI System - International System of Units
   - know the SI base units for length, time and mass
   - be able to identify a derived unit

3. certainty - identify certain and uncertain digits in a measurement
   - determine the certainty of a measurement by stating its number of significant digits

4. SDs and operation rules - Certainty Rule
   -> multiply and divide
   -> total # of significant digits
   - Precision Rule
   -> add and subtract
   -> # of digits after the decimal

5. rearrange an equation for a specified variable

6. perform metric conversions using conversion factors