{ May 23 - Victoria Day (Monday)

May 27 - Professional Learning Day (Friday) }

Physics 112
Tuesday, May 10/16

*Library Books

Adopt a Family

Explain That Stuff - May 13/16

1. Investigation: Atwood's Machine - 2 Days Late

2. Test Unit 2 - Tomorrow -> May 11/16

3. NB Student Wellness Survey

4. Review for Test

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5. Worksheet: Text -Page 221, PP #1-3
   Worksheet: Text - Page 225, PP #4-10 } Work Done and Not Done

6. Positive and Negative Work

7. Worksheet: Text - Page 235, PP #14-15

8. Assignment: U3-S1 - Date TBA

MC.

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

Physics 112
Topics -> Test: Unit 2 - Dynamics

1. definitions -> dynamics, force, net force
2. types of forces -> contact and non-contact
                    -> examples
3. five specific forces -> **W, F$_A$, N, T, F$_f$**
4. force of friction -> static and kinetic

   coefficient of friction -> static and kinetic
5. FBDs -> draw and label
        -> interpret
6. static equilibrium -> **F$_{net}$** = 0 N, **a** = 0 m/s²   "State of eq."
                        -> objects at rest
                        -> objects moving with constant velocity
7. inertia and mass
8. Newton's First Law of Motion -> Law of Inertia
                                -> objects at rest or moving with
                                constant velocity
9. Newton's Second Law of Motion -> Law of Force, Mass and
                                    Acceleration
                                 -> accelerating objects
                                 -> Atwood's Machine Problems
10. Newton's Third Law of Motion -> Law of Action and Reaction
                                 -> action and reaction forces
11. momentum
12. impulse
13. impulse-momentum theorem

$$\vec{J} = \vec{F}t \qquad \vec{p} = m\vec{v} \qquad \vec{J} = \Delta\vec{p}$$

$$\vec{J} = \vec{F}t = \Delta\vec{p} = \vec{p_f} - \vec{p_i} = \boxed{m\vec{v}_f - m\vec{v}_i}$$

$$= m\left(\vec{v}_f - \vec{v}_i\right)$$

$$= m\,\boxed{\Delta\vec{v}}$$

Science 122

Tuesday, May 10/16

http://mvhs.nbed.nb.ca/

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1. Test - Tomorrow -> May 11/16
   Questions?

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2. Topic 5 - Nuclear Physics

3. Review: Atoms and Isotopes

4. Radioactive Decay: Alpha, Beta and Gamma Decay

5. Decay Series

Science 122
Topics -> Test: Fluid Mechanics

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1. mass density $\rho = \dfrac{m}{V}$ $m = \rho V$

2. specific gravity

3. pressure $P = \dfrac{f}{A}$

4. fluid

5. fluid mechanics

6. hydrostatics - hydrostatic equation

 - Pascal's Principle $\longrightarrow$ hydraulic lift

 - Archimedes' Principle

 - buoyancy $F_B = W_{he} + W_L$

 - fraction, % submerged $\boxed{\dfrac{}{}} = \boxed{\dfrac{}{}} = \boxed{\dfrac{}{}}$

 - apparent weight $W_{app} = W - F_B$

7. hydrodynamics - types of fluid flow: steady or streamline/unsteady

compressible/incompressible

viscous/nonviscous

 - mass flow rate

 - Equation of Continuity

 - volume flow rate

 - 3 characteristics of ideal fluid flow

 - Bernoulli's Equation

Science 10
Tuesday, May 10/16

1. Return -> Assignment: Acceleration Problems

2. Check -> Review: Physics Unit - Multiple Choice

3. Test - Physics Unit - Friday, May 13/16

4. Roller Coasters - Deadline: Thursday, May 26/16

Review - Physics Unit - MC - Answers

1. C	6. A	11. D	16. A	21. A
2. B	7. B	12. D	17. C	22. B
3. A	8. A	13. A	18. D	
4. D	9. D	14. B	19. C	
5. C	10. C	15. B	20. C	

Physics 122

Tuesday, May 10/16

Explain That Stuff - May 13/16

1. Assignment: Experiment 8.1 - Kepler's Laws - Page 49
   4 Days Late

2. Questions? -> Worksheets (Kepler's Laws, Etc.)

3. Formative Assessment - Planetary Motion

4. Worksheet: Text: Page 614, PP #5-8
   Text: Page 623, PFU #28, 29 } pendulums

5. Review: Hooke's Law

6. Review: Types of Energy

7. Energy of a Mass on a Horizontal Spring

8. Maximum Speed of a Mass on a Spring

9. Velocity Of A Mass On A Spring At Any Point

10. Worksheet: Text - Page 608, #1-4
    Page 623, #23-27, 30

Formative Assessment - Planetary Motion
Tuesday, May 10/16

The asteroid "197 Ike" has its own small moon, Nacdyl.

a) Find the mass of "197 Ike" given that the orbital radius of Nacdyl
   is 65 km and its period is 12 h. (8.7×10^{16} kg)

b) How far would a UFO be from the center of "197 Ike" if the UFO
   has an orbital speed of 648 km/h? (1.8×10^2 m)