May 23 - Victoria Day (Monday)
May 27 - Professional Learning Day (Friday)

# Physics 112

Tuesday, May 10/16

http://mvhs.nbed.nb.ca/
http://mvhs-sherrard.weebly.com/

# \*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
- 5. Worksheet: Text -Page 221, PP #1-3 Worksheet: Text Page 225, PP #4-10 Worksheet: Text Page 225, PP #4-10
- 6. Positive and Negative Work
- 7. Worksheet: Text Page 235, PP #14-15
- 8. Assignment: U3-S1 Date TBA

#### 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,  $F_f$
- force of friction -> static and kinetic coefficient of friction -> static and kinetic
- 5. FBDs -> draw and label

-> interpret

6. static equilibrium ->  $\mathbf{F}_{net} = 0 \text{ N}, \mathbf{a} = 0 \text{ m/s}^2$ 



-> 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

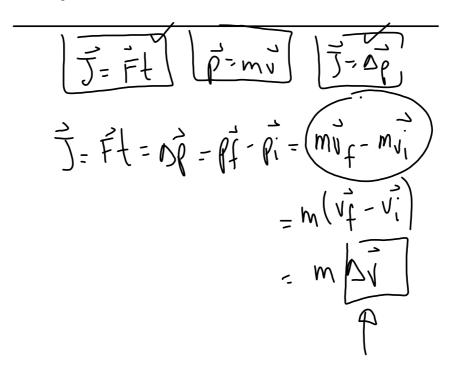
-> accelerating objects

-> 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



# Science 122

\_http://mvhs.nbed.nb.ca/

Tuesday, May 10/16

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

1. mass density





- 2. specific gravity
- 3. pressure



- 4. fluid
- 5. fluid mechanics
- 6. hydrostatics hydrostatic equation

-> hydraulic lift

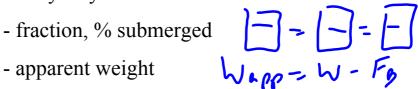
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FB = Whe + WL - Pascal's Principle

- Archimedes' Principle

- buoyancy





- apparent weight

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

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

- 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

## Physics 122

Tuesday, May 10/16

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# Explain That Stuff - May 13/16

- Assignment: Experiment 8.1 Kepler's Laws Page 49
   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.  $(8.7 \times 10^{16} \text{ kg})$
- 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 x 10<sup>2</sup> m)