March 31 Gradekeeper Type Report

April 1 AM PT *No School.*

April 13 (Wed.) Report Cards

April 14 (Thur.) Evening PT

Physics 112
Wednesday, March 23/16

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1. Kinematic Equations - Continue

2. Worksheet - Motion Problems - HW: #1-10

3. Freely Falling Bodies

Science 122
Wednesday, March 23/16

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1. Test - Magnetism -> Thursday, March 24/16

2. Topic - Optics
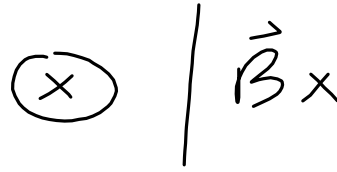   - Law of Reflection
    - Refraction and Snell's Law
    - Plane Mirrors
    - Spherical Mirrors
        - Concave Mirrors
        - Convex Mirrors

Test Topics - Magnetism

$\otimes$ $\Big| \vec{B} \times$

- magnetic field lines

- symbols: into and out of the page
  $\times$ $\circ$
- solenoids/electromagnets

- Hand Rules: #1 $\Rightarrow$ Find dir. $\vec{B}$: straight wire

  $R \rightarrow \vec{I}$ #2 $\Rightarrow$ Find N pole : coil

  $L \rightarrow e^-$ #3 $\Rightarrow$ Find the dir. $\vec{F_B}$ on a wire

- forces on two parallel wires $||$ $=$ $\backslash\backslash$ $\vec{B} A \otimes$ $\otimes \vec{B} \downarrow$ $\times I$

- calculate strength of magnetic fields $\vec{F} \Rightarrow \leftarrow \vec{F}$

- force on a wire $F = \underline{IL}B \sin \theta$ $\times$ $L = e \times t$

- force on a charged particle $F = q\underline{v}B \sin \theta$ $F = ma$ $E_K = \frac{1}{2}mv^2$

- circular paths $F_B = F_C = ma_c$ $r = \frac{mv}{qB}$ $F = ms$ $p = mv$

  - #3 1st modification fingers $\Rightarrow \vec{B}$, Thumb $\Rightarrow \vec{v}$, palm $\Rightarrow \vec{F}$

$E \perp B$
- velocity selector and mass spectrometer $v = \frac{E}{B}$, $V = E d$, $\left[\frac{q}{m}\right] = \frac{2V}{B^2 r^2}$

  First question on the last quiz

- <u>electromagnetic induction</u>

  - #3 2nd modification fingers $\Rightarrow \vec{B}$ Thumb-dir. wire, palm $\Rightarrow$ dir. $\perp$

  - Lenz's Law

  - EMF $EMF = V = BLv$, $V = IR$, $F = ILB \sin \theta$

    - conducting rods

      - #3 3rd modification fingers $\Rightarrow \vec{B}$, Thumb $\Rightarrow$ dir. of wire
                                      palm $\Rightarrow$ dir of f_m

  - self-inductance

  - mutual-inductance

  - transformers $\dfrac{N_s}{N_p} = \dfrac{V_s}{V_p} \neq \dfrac{I_p}{I_s}$

Science 10

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

Wednesday, March 23/16

1. Test - Chemistry - Thursday, March 24 /16

2. Lab - Types of Reactions, Gas Collection and More
   - Each Person Passes in a Lab Sheet for Marking
   - Place in bin by Thursday, March 24/16.

Topics - Chemistry Test

- define chemistry

- locate families and periods on the periodic table

- locate metals, nonmetals and metalloids on the periodic table

- atoms (electrically neutral)

   - subatomic particles (p+, n, e-)

   - atomic number $\boxed{\#}$

   - # of protons and # electrons in atoms

- ions, cations, anions (electrically charged)   cation → Na^+ (lost $1e^-$)
                                                  anion → Cl^- (gained e^-)

   - # of protons and # electrons in ions

   - types of ions: MI, MIMM, PI

   - names and symbols   Sodium ion, chloride, "ATE", "ITE"

- ionic bonds (transfer of electrons)

- ionic compounds (electrically neutral)

            - simple binary ionic compounds $NaCl$

            - ionic cpd with polyatomic ions $Mg(OH)_2$

            - ionic cpd with multivalent metals $CuCl_2$

                - roman numerals   Copper (II) chloride

            - ionic cpd with MM and PI $Fe_2(SO_4)_3$

                - names ⟷ chemical formulas

- covalent bonds (sharing of electrons)

- prefixes

- molecular compounds - simple binary compounds CCl_4

                - diatomic molecules, S_8, P_4, H_2O, NH_3, H_2O_2

   H_2 - ... - N_2, F_2, Br_2, I_2, Cl_2 - names ⟷ chemical formulas

- Law of Conservation of Mass

- count atoms

- chemical reaction, reactants, products   R ⟹ P

- balance chemical reactions

- identify five types of chemical reactions: F, D, SR, DR, C

- translate word equations to balanced chemical equations

- predict products of chemical reactions

Format = Multiple Choice.
   — Like Assignment / Quiz Instructions.

Physics 122

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1. Intersection Problems - Continue

2. Worksheets - Relative Velocity Problems