

## SNC 2D Exam Review

### Chemistry

- Define metalloids
- Qualitative vs quantitative properties
- Periodic Table
  - Identify metals, non-metals, and metalloids
  - Identify Alkali metals, halogens, alkaline earth metals and noble gases
  - Compare and contrast groups and periods
- Drawing Atoms
  - What are the three subatomic particles in an atom?
  - How do you can you determine the number of each of the subatomic particles?
  - Draw Bohr-Rutherford and Lewis diagrams of various atoms
- Compounds
  - Describe both ionic and covalent bonds
  - An ionic compound is between which two types of atoms? Covalent?
  - Identify the charges on various types of atoms.
  - Name ionic compounds and write the formula for ionic compounds.
  - Name molecular compounds and write the formula for molecular compounds.
  - Name compounds containing polyatomic ions and write the formula for compounds containing polyatomic.
  - Name compounds containing multivalent and write the formula for compounds containing multivalent.
- Balancing
  - State the law of conservation of mass
  - Be able to balance equations
- Types of reactions
  - Name the five types of reactions covered in class
  - State the general equation of each type of reaction
  - Identify various types of reactions
- Putting it all together
  - Take word equations and write them as chemical equations
  - Predict products
  - Balance and identify type of reaction
  - HOFBrINCl

## **Biology**

- Cells
  - Name and list the function of all cell organelles
  - Name three major differences between animal and plant cells
- Cell Division
  - What are the stages of the cell cycle? Cell division? Describe and draw all stages.
  - Why do cells divide?
  - What is the difference between chromatid and chromosome.
  - What causes cancer?
  - What is meant by the term differentiation?
  - Define totipotent, multipotent
- Organ Systems and Tissues
  - Name and describe four types of human tissue.
  - What are the levels of organization within the human body?
- What is osmosis and what is its importance to the body?
- List all sections of the GI Tract. List all accessory organs. State the function of each.
- What are villi and why are they present in the small intestine?
- What is peristalsis and where does it happen?
- Be able to label a diagram of the digestive system.
- List the three blood vessels. Compare their function to their structure.
- Name the four chambers of the heart.
- What is the function of the pulmonary circuit?
- What is the function of the cardiac circuit?
- What kind of blood cells do we have?
- Be able to label a diagram of the heart.
- List the structures of the respiratory tract in order.
- Describe the structure of the trachea. How does this help its function.
- What is the difference between bronchi and bronchioles?
- What happens at the alveoli?
- Label a diagram of the respiratory system.
- Contrast the root and shoot system in plants.
- Define xylem and phloem.

## **Physics**

- Define optics.
- What is the electromagnetic spectrum? What has the largest wavelength on the spectrum? The shortest?
- Is light a wave or a particle?
- What is the difference between reflection and refraction?
- List and describe the three types of objects that light can strike.
- Contrast diffuse and specular reflection. Give an example of each.
- Be able to locate all images in both a concave and convex mirror.
- Define the following: Primary axis, centre of curvature, primary focus, vertex
- The speed of light traveling through glass is  $0.89 \times 10^8$  m/s. What is the index of refraction for acrylic?
- How does the angle of refraction change as light leaves one medium to another? How does the refracted ray change as it slows in a medium? How does the refracted ray change when it speeds up in a medium?
- Define total internal reflection and when it occurs.
- Be able to locate all images in both a converging and diverging mirror.