Sec 4 Midyear Exam Topics

# Atomic Theory

Be able to draw the Bohr-Rutherford model of an atom

# Periodic Table

Know how to read the periodic table – where can you find the group #, period #, atomic mass, atomic number, # of valence electrons, # of orbits (electron shells)

Know the names of the different groups/families

Know the characteristics of each group/family

# Concentrations and Solutions

Be able to calculate concentrations in ppm, %, g/L and mg/L

Know the procedure for how to prepare a solution (think back to our labs)

# Electrolytes and pH

Know the 3 types of electrolytes and their characteristics

Know what an electrolyte is

Know how to recognize acids, bases and salts based on their chemical formulas

Be able to read and interpret indicator colour charts

# Conservation of Matter

Be able to draw the particle model for a molecule and equation

Be able to balance an equation

Be able to calculate the mass of reactants or products based on the law of conservation of matter

# Chemical Reactions

Be able to recognize neutralization, synthesis, decomposition, combustion and photosynthesis reactions

Know the parts of the fire triangle and how they can be affected

# Living World

Know the different types of population distribution

Know what primary productivity is and what factors contribute to it

Be able to read a food web and understand predator-prey relationships

# Earth and Space

Know the carbon cycle

Understand the greenhouse effect, what contributes to it and what effects it has

Know what permafrost is and how it is affected by global warming

Know what thermohaline circulation is and what factors affect it

Understand how the tides work with relation to the moon

Know the difference between surface and deep ocean currents

Be able to analyze a watershed diagram

Know the difference between a rock, mineral and ore is

Know the layers of the soil (soil horizons)

Know the characteristics of a cold and a warm front

Know the different types of energy sources from each of the spheres along with their pros and cons

Know the difference between renewable and non-renewable energy sources