

# Science 1206

## Unit # 1: Life Science: Course Objectives

Objective #	Objective Description	Text Reference
1	Define Paradigm	-----
2	Explain paradigm shift Discuss the significance of paradigm shift with respect to sustainability	-----
3	Define ecology and ecosystem	p.22-23
4	Define habitat and niche	p. 40-41
5	Classify organisms as producers, Consumers autotrophs, heterotrophs, decomposers, herbivores, carnivores, omnivores, saprobes	p.34-35 p. 10-11
6	Explain the flow of energy in an ecosystem	p.32-39
7	Explain the concept of trophic levels and energy pyramid	p.32-39
8	Explain the concept of biomass , pyramid of biomass and pyramid of numbers	p.32-39
9	Define abiotic factors: temperature, oxygen level, light, water, nutrient levels, pollutants etc.	p.23, 40-44, 126-145
10	Define biotic factors: disease, predation, competition, symbiosis	“ “ “
11	Diagram and explain the carbon cycle.	p. 50-51, 62-65
12	Discuss the cause and significance of global warming	p.62-65
13	Describe and explain the nitrogen cycle	p. 66-67
14	Describe how humans have altered the carbon and nitrogen cycle and what is being done to negate human impact on these cycles	p. 70-71
15	Describe basic soil composition	p. 97-99
16	Describe how soil fertility can be altered and some potential problems that may occur.	p.106-108
17	Explain what is meant by the term biome.	p.88-96
18	Describe the major factors that influence biome formation.	p. 88-96
19	Describe Canada’s major biomes.	p.88-96
20.	Define succession	----
21	Distinguish between primary and secondary succession	-----
22	Important ecological issues <ul style="list-style-type: none"> <li>• Biological Amplification</li> <li>• Biodiversity vs. monoculture</li> <li>• Exotic Species</li> </ul>	P.52-58 p108-109,112-113 p. 42-44

## Science 1206 Chemistry Unit Outline

Item #	Topic	Page # (Science 10)
1	Chemistry: <ul style="list-style-type: none"> <li>- Matter</li> <li>- Pure Substances and Mixtures</li> <li>- Physical and Chemical Properties</li> </ul>	170 – 173
2	Atomic Structure: <ul style="list-style-type: none"> <li>- Atoms, Isotopes and Sub-atomic Particles</li> <li>- Ions</li> </ul>	184 – 187
3	IUPAC System of Nomenclature	...
4	Molecular Compounds: <ul style="list-style-type: none"> <li>- Bonding and Physical Properties for Molecules</li> <li>- Binary Molecular Compounds</li> <li>- Common-name Molecular Substances</li> </ul>	201 – 204
5	Ionic Compounds: <ul style="list-style-type: none"> <li>- Bonding and Physical Properties for Ionic Compounds</li> <li>- Binary Ionic Compounds</li> <li>- Stock Naming Convention and Exceptions</li> <li>- Ternary Ionic Compounds (Polyatomic ions)</li> <li>- Hydrates</li> </ul>	192 – 198
6	Acids: <ul style="list-style-type: none"> <li>- General Formula and Properties of Aqueous Acids</li> <li>- Haloacids (Binary acids)</li> <li>- Oxyacids</li> </ul>	198
7	Chemical Equations: <ul style="list-style-type: none"> <li>- Word Equations</li> <li>- Skeletal Equations</li> <li>- Balanced Equations</li> <li>- Net Ionic Equations (optional)</li> </ul>	218 – 219, 226 – 229
8	Chemical Reactions Types: <ul style="list-style-type: none"> <li>- Combination</li> <li>- Decomposition</li> <li>- Single Replacement</li> <li>- Double Replacement</li> <li>- Hydrocarbon Combustion</li> </ul>	233 – 235, 240 – 241, 230 – 231
9	Predicting Products for Reaction Types	”
10	WHMIS System and MSDS Information	174 – 178, 658