

identify the elements that are common to living things

illustrate the cycling of matter through biotic and abiotic components of an ecosystem by tracking carbon, nitrogen and oxygen

diagram the carbon cycle and describe the processes required to cycle from carbon reservoirs to the atmosphere

plan changes to predict the effects of, and analyze the impact of external factors on an ecosystem

describe how humans have altered the carbon, oxygen and nitrogen cycles in ecosystems

describe what is being done to negate human impact on these (carbon, oxygen, and nitrogen) cycles

describe the importance of oxygen to aquatic and terrestrial ecosystems

explain how oxygen is distributed within aquatic ecosystems

understand the relationship between temperature of water and the amount of dissolved oxygen

describe the importance of ozone as a protective layer against the harmful effects of UV radiation

explain how human impact has increased global warming

- describe the potential effects of global warming on the distribution of life on Earth
- identify ways in which you as an individual might help solve the problem of global warming
- define aquatic eutrophication
- identify the sources of pollution that cause this environmental problem
- describe what is meant by short term stress and long term change
- identify factors that cause extinction of animals including: influence of humans, climate change, and pressure of competition
- compare a natural and an artificial ecosystem in terms of the influence of different abiotic factors on the organisms that live there
- describe how acid deposition affects a forest ecosystem
- describe how the introduction of an exotic species (zebra mussel) has affected life in the great lakes
- complete a research study of the Newfoundland Marten as an example of a local animal that is presently listed as endangered
- describe the abiotic components of soil
- describe the biotic nature of soil
- describe issues related to soil and sustainable agriculture
  - describe how soil composition and fertility can be altered to increase crop yield
  - identify the risks and benefits that use of artificial fertilizers have had on food production and on soil quality
  - identify possible consequences of improper use of natural and synthetic fertilizers
  - identify irrigation practices have impacted on soil quality
- define what is meant by the term biome
- identify the four major biomes that are found in Canada and describe the major characteristics of each including climatic characteristics, and the major plant and animal life forms common to each