

## Environmental Science

WAB Environmental Science is a two-year course that allows students to continue to study the sciences using an integrated systems and processes approach. In studying the course it is intended that students will develop an understanding of scientific concepts, apply and use scientific methods, communicate effectively, analyze scientific information, and carry out scientific investigations in a safe and responsible manner. The course will foster an understanding and appreciation of the sciences and support students in becoming responsible global citizens.

The course aims to provide an understanding of systems and processes in both aquatic and terrestrial environments. The study of planet Earth's environments recognizes that while humans are part of nature they continue to have a greater influence on the environment than any other species. Students develop an understanding that the natural environment is fundamental to any analysis of more specific local environments. The common factor in all of the environmental hazards that humanity faces is that they are derived from society's lack of awareness that people are part of an environment that is composed of the interactions of the sub-systems: water, land, air, ice and living things.

### Subject Areas

#### Core Topics:

- **The Local Environment:** soil properties, humans impact, aquatic and terrestrial environments, environmental laws, habitat alteration, biodiversity.
- **Water Issues** ; biomes, importance of water in ecosystems, pollution, water conservation.
- **Dynamic Earth:** crustal plates, evidence for plate tectonics and sea-floor spreading.
- **Tectonic Impacts** – mountain building, earthquakes, volcanoes, tsunamis, effects of volcanic activity on climates
- **Environments Through Time** - fossil evidence for evolution, natural selection, development of ozone layer, extinction of species.
- **Caring for the Country** – soil erosion, salinity, pesticides, bio-magnification, water management, greenhouse gases and acid rain, ozone depletion, toxic wastes.

#### Options:

- **Introduced Species and the Environment**
- **Fossil Fuels** – Non-renewable Resources

### Assessment

Students will be required to undertake a major first-hand investigative research project as part of a research group and submit an individual written report on the project in addition to a group oral presentation. Additionally, throughout the course students will be required to undertake practical investigations on an individual and group basis. These investigations are to be written up as scientific reports and submitted for assessment. Other research and assignment tasks may involve group work, class presentations and poster production. A Yearly Examination on course content will occur at the end of Grade 11 and Grade12.

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| <b>ASSESSMENT</b> | <b>Practical</b>                            | Two in-class Practical Assessment tasks with full written reports, Open Ended Investigation Report   | 30%  |
|                   | <b>Research Reports &amp; Presentations</b> | Two major reports/presentations which may include:<br>Fieldwork study and report, Model making,<br>Oral /poster presentation & report, Research report | 20%  |
|                   | <b>Examinations</b>                         | Final and Mid-Year Examinations, topic tests.  | 50 % |