

Grade 8: Science

Unit 2 - Ecology

Start: October 2022

Duration: 8 weeks

LEARNING EXPERIENCES:

In this unit, students will be introduced to the spheres of life. They will explore different ecosystems (biotic & abiotic influences). They will learn about the energy flow and species interactions through food chains/webs, species adaptation, populations. They will research and investigate the Human Impact on Biodiversity. They will also learn about fossil fuels.

KEY CONCEPT:

Change

RELATED CONCEPTS:

Consequences, Environment

STATEMENT OF INQUIRY

Societies must consider **consequences** of **changes** made to the **environment** as human impacts continue to affect globalisation and sustainability.

INQUIRY QUESTIONS:

Factual:

What are the biotic and abiotic factors of an ecosystem?
 What are the trophic levels of organisms presented in food chains and food webs?
 Which ecosystems are affected by human activity?

Conceptual:

How do organisms interact with each other and with their environment?
 How are populations affected by natural changes?
 How are organisms adapted to survive in their natural habitats?

Debatable:

To what extent should all people have the same responsibility to care for the sustainability of the environment?
 To what extent is it possible to reduce or eliminate the current rate of species extinctions?
 Do we have the right to upset ecological balance because of increasing human population?

OBJECTIVES AND ASSESSMENT CRITERIA:

**Criterion A:
Knowing & Understanding**

Students will:

- i. describe scientific knowledge.
- ii. apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations.
- iii. analyse information to make scientifically supported judgments.

**Criterion D:
Reflecting on the impacts of science**

Students will:

- i. describe the ways in which science is applied and used to address a specific problem or issue.
- ii. discuss and analyse the implications of using science and its application to solve a specific problem or issue, interacting with a factor.
- iii. consistently apply scientific language to communicate understanding clearly and precisely.
- iv. document sources completely.

ATLs

Communication skills, Critical thinking skills & Creative thinking skills

RESOURCES:

MS Teams / Gizmos / Laptops / Experiments done as demonstration in class. All notes written by the students in the notebooks. Resources shared in TEAMS and ManageBac.

SUMMATIVE ASSESSMENT:

Criterion A: A paper and pen test will be given at the end of the unit.

Criterion D: The students will write an essay to reflect on the impact of science.