

Year 11 Biology Unit 1: Unity and Diversity (2012)

AREA OF STUDY 1: Cells in Action

This area of study focuses on the activities of cells. Students investigate the relationship between specialised structures of cells and the processes that maintain life. All organisms, whether unicellular or multicellular, require a relatively stable internal environment for optimal functioning. Students examine how membranes contribute to survival of cells by controlling the movement of substances within cells, and between cells and their external environment. Students undertake practical investigations into cell structure and functioning in autotrophs and heterotrophs. They consider the development of ideas and technological advances that have contributed to our knowledge and understanding of cell biology.

Outcome 1

On completion of this unit the student should be able to design, conduct and report on a practical investigation related to cellular structure, organisation and processes.

Assessment Tasks

1. SAT 1 - Cellular Structure and Function Practical Investigation.
2. SAT 2 - Presentation of PowerPoint/Poster on Membrane Structure and Movement across Membranes.

Students are also expected to complete all set Biozone Worksheets relating to Outcome One. These will be used as an indication of satisfactory completion if SAC results are below standard.

AREA OF STUDY 2: Functioning Organisms

This area of study focuses on the structure and function of organisms. Students examine a range of organisms and investigate the ways that structures and systems function in terms of obtaining and releasing energy; obtaining nutrients, water and gases; processing and distributing materials to cells and transporting wastes from cells to points of disposal. Students examine how patterns of observable similarities and differences in the structure and function of organisms are used in constructing taxonomic systems that are subject to change as new information is obtained. They consider the development of ideas and technological advances that have contributed to our knowledge and understanding of living things and relationships between them.

Outcome 2 On completion of this unit the student should be able to describe and explain the relationship between features and requirements of functioning organisms and how these are used to construct taxonomic systems.

Assessment Tasks

3. SAT 3 - Termites, Skulls and Guts.

Students are also expected to complete all set Biozone Worksheets relating to Outcome Two. These will be used as an indication of satisfactory completion if SAC results are below standard.

Assessment Task for Outcomes One and Two.

4. Semester Examination.

ASSESSMENT- *The award of satisfactory completion for a unit is based on a decision that the student has demonstrated achievement of the set of outcomes specified for the unit. This decision will be based on the teacher's assessment of the student's overall performance on assessment tasks designated for the unit. For this unit students are required to demonstrate achievement of the two outcomes.*