

# Tobermory High School

## Biology

### Higher Level

Higher Biology provides an opportunity for students to extend their knowledge of Biology and its applications beyond that already studied previously at Standard Grade or Intermediate 2. It provides a grounding for students who wish to study science subjects further or who will require a knowledge of Biology for their future career.

The recommended entry level to this course is Standard grade Biology at grades 1 or 2 in Knowledge and Understanding and Problem Solving (Alternatively Intermediate 2 in Biology.)



## **Course Outline and Assessment Schedule**

The Higher Biology course is divided into 3 units, which lead to awards in the individual units as they complete the Higher course:

### **1. Cell Biology**

This unit is covered in August, September and October with the unit assessment being in October after the unit is completed.

This unit covers cell variety, absorption and secretion, respiration, photosynthesis, DNA, protein synthesis, variety of proteins, viruses and cellular defence mechanisms. It also contains practical assignments.

### **2. Genetics and Adaptation**

This unit is covered in November, December and January with the unit assessment being in January after the unit is completed.

This unit covers meiosis, mono and dihybrid crosses, sex linkage, mutations, natural selection, speciation, adaptive radiation, artificial selection, water balance in plants and animals, obtaining food in plants and animals and coping with dangers. It also contains practical assignments.

### **3. Control and Regulation**

This unit is covered in February, March and April with the unit assessment being in April after the unit is completed.

This unit covers plant growth, growth patterns, genetic control, hormonal influences, effect of light on growth, physiological homeostasis, population dynamics and succession in plant communities. It also contains practical assignments.

## **Assessment**

The course is split into 3 distinct areas.

### **Knowledge and Understanding**

Students should develop the ability to recall learning and understanding facts and principles.

### **Data Interpretation**

Problem solving skills should be developed so that students can generally:

- select information from a variety of sources
- present information appropriately in a variety of forms
- process information accurately using calculations
- plan, design and evaluate experimental procedures
- make predictions and generalisations based on evidence

### **Practical Abilities**

Practical work is essential in the development of scientific problem solving skills and necessary to underpin theoretical work. As a result students can generally:

- describe experimental procedures accurately
- record relevant measurements and observations
- analyse and present information in appropriate formats
- draw valid conclusions
- evaluate procedures with supporting arguments

In order to successfully pass the Higher course a student must:

Pass one practical assignment.

Pass each unit assignment (pass > 65%).

Pass the final Higher exam.

The unit assessments allow for a re-assessment if 65 % is not attained at the first attempt. A pass does not provide an indication of grade, but does suggest at least a C pass is likely.

There are additional integrated knowledge questions, which are used to provide more accurate predictions on grades and these are used to give a clearer indication of the level of work being done.

Pupils are regularly informed of their progress in Biology in order that they are aware of what is required to improve. This is done through

- homeworks
- multiple choice tests
- practical assignments
- unit assessments
- essays
- integrated knowledge questions
- prelims

## **External Assessment**

There will be an examination in the SQA diet of exams which will assess work from all three units.

The exam will last 2 ½ hours.

## **Certification**

In order to successfully pass the Higher course a student must:

Pass one practical assignment

Pass each unit assessment (pass > 65 %)

Pass the final Higher exam

The unit assessments allow for a re-assessment if 65 % is not attained at the first attempt. A pass does not provide an indication of grade, but does suggest at least a C pass is likely.

There are additional integrated knowledge questions, which are used to provide more accurate predictions or grades and these are used to give a clearer indication of the level of work being done.