

**Subject: Biology**

**Exam Board: AQA**

Welcome to A-level Biology. We are delighted that you are considering this A-level as an option in Year 12 and 13. To demonstrate your commitment to the course and to prepare you for September, you must complete the following tasks to the best of your ability. These tasks are compulsory and must be completed prior to the end of this school academic year.



We expect you spend at least 3-4 hours completing the tasks outlined below. The activities have been designed to help you begin to develop some of the key skills you will need for A-level.

### **Learning Objectives:**

To consolidate some of the key aspects from GCSE Biology

To reinforce the skills needed to move forward at A-Level

**Contacts for Support:** Mr Milward, Mrs Gwynne, Mrs Lambert, Dr Squire

### **What is Biology?**

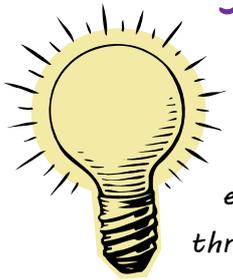


Biology is the study of life. It explores the complexity of living organisms, their structures and functions, and life processes such as photosynthesis, respiration, reproduction and digestion. Biology looks at how characteristics are passed from parents to their offspring and how natural selection operates, creating the great diversity of species in the world today. Biologists are also involved in finding solutions to worldwide problems such as: global warming; the extinction of species; Ebola and other epidemic diseases; and MRSA and superbugs.

Biology is a fascinating subject that allows us to make a difference to tomorrow's world by helping us understand the world we live in today.

### **Careers you can consider with Biology:**

Biology offers a wide range of career options and opportunities for school-leavers, and then ultimately graduates and postgraduates. First of all, there's no such thing as a typical biologist. Entering a career in biology could take you in almost any direction you can think of, and to anywhere in the world due to the skills you can develop. Specific careers can include: Nanotechnology engineer; Zoologist; Physiotherapist; Ecologist, Marine biologist; Pharmaceutical engineer; Microbiologist; Forensic scientist and many more.



### **Skills you will have learnt on completion of the course**

During the course you will develop many specific, as well as transferable, skills including: research skills; problem solving; organisation and analytical skills. You will learn to evaluate evidence and process data, as well as be able to present your own experimental data in various ways. You will develop more hands-on, practical skills through the completion of required practical activities throughout the courses

#### **Overview of lessons:**

*Lesson 1: Enzymes and factors affecting the rate of reaction. You will complete a practical activity showing how a factor can affect enzyme activity.*

*Lesson 2: Surface area : volume. You will carry out a practical activity to recap the work done at GCSE and to introduce more detail.*

*Lesson 3: Osmosis. You will carry out an experiment to show the effects of different solutions on plant cells.*

*Lesson 4: Microscopy skills. You will use microscopes to view cells and work through calculations to determine the actual size of the specimens.*

#### **Homework Tasks to be completed:**

*Task 1: Follow up questions based on your enzymes practical.*

*Task 2: Follow up questions based on transport across membranes and adaptations.*

*Task 3: Completion of follow up work on the topic of osmosis.*

*Task 4: Completion of calculations sheet relating to microscopy skills.*

*Finally, you will have access to the transition guide 'Head Start to A-Level Biology'. This guide will help you to you to make the jump from GCSE to A-Level and get a head start on some of the topics we will be looking at in year 9. You will be sent a Forms Assignment link to an online multiple-choice test based on this content. The assignment must be completed by the first lesson in September.*