There will be an interim assessment in each units; strengths and areas for development will be identified.

Year 7 Biology at CLHS

1. Introduction to Science

At the end of this unit you will be able to work confidently and safely with a range of scientific apparatus. We start by learning how to **identify risks and hazard**s in the science laboratory before moving on to look at common pieces of scientific equipment and how to use them to make **accurate measurements**. You will then be taught how to use a Bunsen burner safely to enable you to complete an investigation. We will learn how to **identify variables** in an experiment and then **write a scientific method** that can be followed to collect data. This data will then be **analysed** to write a **scientific conclusion**

SUMMATIVE ASSESSMENT 1 (Ecosystems 1, matter 1, forces 1) Week 11

2. Ecosystems 1: - Interdependence

Ecosystems will have been studied at Key Stage 2 and we build on this knowledge to ensure a firm understanding of the key concepts required to be successful. We begin by looking at what makes an **ecosystem** and examples of different ecosystems found across the world. We then develop this by looking at different **organisms** found in **habitats** and how they are **interdependent**. We expandon learning from Key Stage 2 to make food webs for different habitats and consider how changes to numbers of organisms within these can have wider spread effects. We **analyse** how **pesticides** can be passed along a food chain and the impact of this before moving on to looking **a sampling techniques** used by ecologists to estimate **populations**.

START!

Year 7

Half term 1

Baseline Assessment. Written test to determine starting point for all students in science

Sampling populations: following a scientific method

Journey of a sperm cell - communicating scientific ideas and sequencing events

Using a microscope: biological drawings and calculating magnification

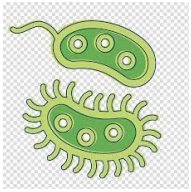
Half term 2

Half term 3

SUMMATIVE ASSESSMENT 2 (organisms 1, matter 2, forces 1) Week 19

3. Organisms 1: Cells

We start by looking at how **microscopes** can be used to view objects and how we can **calculate magnification**. We then move on to making slides of our own specimens to allow us to make detailed **observations** of plant and animal cells. This will allow a **comparison** of plant and animals cells and the **organelles** that are found in them. Next we look at **specialised** cells **linking** their structures to their functions. This leads to studying at **single-celled organisms** and how they are **adapted**. Finally we apply our knowledge of **diffusion** studied in chemistry to **explain** how substances move in and out of cells.



4. Genes 1: Human Reproduction

In this unit we focus on the science of reproduction in animals with a focus on humans. We start by considering **puberty**, why it happens and what happens during it before moving on to the male and female **reproductive systems**. We study the **menstrual cycle** in females and how this links to fertility before looking at **fertilisation** and the development of a **foetus**. The skills focus of this unit is **sequencing ideas** to improve literacy.

Analysing results: investigating muscles and force

Half term 4

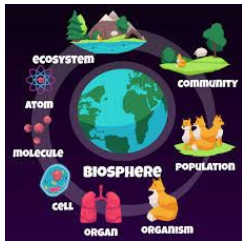
SUMMATIVE ASSESSMENT 3 (genes 1, reactions 1, waves 1) Week 27

Graph skills: investigating variation in the class

Half term 5

5. Organisms 2: Organisation

This unit links back to unit on cells and places them in the **organisational hierarchy** for organisms along with **tissues**, **organs** and **organ systems**. We study the different functions of the **skeleton** and why it is so important before looking at the different types of **joints** in the body. We **investigate** how muscles work in **antagonistic** pairs to help us to move, before completing the unit by looking at diseases and conditions that can damage the skeleton and muscles.



Half term 6

6. Genes 2: Variation

This unit starts by looking at how we define what a **species** is and what causes **variation** amongst members of the same species. Once we have considered the causes of variation we categorise it as **continuous** or **discontinuous** and **investigate** variation within students. This will enable us to develop our **graph skills** as we present the data appropriately. We then look at how organisms have **adaptations** to help them be successful and survive in different habitats.

SUMMATIVE ASSESSMENT 4 (organisms 2, reactions 2, electromagnets 1, genes 2) Week 37

FINISH