**Armfield Academy – Department of Science**

**Year 10 Biology Curriculum Overview**

- ✓ Each lesson will start with a series of questions linked to both the previous lesson and topics studied previously.
- ✓ Formative assessment of skills linked to practical work will enable students to demonstrate their acquisition of new skills.
- ✓ Students are encouraged to consolidate learning at least once a week and seek tutor help if unsure on any topics.
- ✓ Within each unit, time will be allocated for consolidation and recall before assessment, this includes for mock exams.
- ✓ The following questions will be explored within the units
- ✓ Content in blue is only taught to the A pathway (students on the triple science route)

| **Half Term 1** | |
|---|---|
| Date | **Topic**: Organisation |
| WC 29/08 | Introduction to science (expectations, standards, health and safety, introduction of key skills and assessing prior knowledge). |
| WC 05/09 | How does our heart work to move blood around our body? What makes up our blood and how does it move around our bodies? |
| WC 12/09 | |
| WC 19/09 | What is coronary heart disease? What's the difference between communicable and non-communicable disease? Does the way I live my life mean I'm more likely to get a disease? |
| WC 26/09 | |
| WC 03/10 | What is cancer and how is it caused? How are the structures of plant tissues adapted to their functions? |
| WC 10/10 | How do water and sugar move through a plant? |
| **Half Term 2** | |
| Date | **Topic**: Bioenergetics |
| WC 31/10 | How do plants make glucose? |
| WC 07/11 | What factors affect photosynthesis? |
| WC 14/11 | **Required practical: Photosynthesis** |
| WC 21/11 | How do plants use glucose? |
| WC 28/11 | How do organisms make energy? |
| WC 05/12 | How does the body respond to exercise? |
| WC 12/12 | What is your metabolism? |
| **Half Term 3** | |
| Date | **Topic**: Infection and response |
| WC 02/01 | What are communicable diseases? |
| WC 09/01 | How do viruses cause disease? |
| WC 16/01 | How do bacteria cause disease? |
| WC 23/01 | How do fungi cause disease? |
| WC 30/01 | How do protists cause disease? |
| WC 06/02 | How does the body defend itself against pathogens?<br>How do vaccines work? |
| **Half Term 4** | |
| Date | **Topic**: Infection and response/ Homeostasis |
| WC 20/02 | How do antibiotics work? |
| WC 27/02 | How are new drugs developed? |
| WC 06/03 | What are monoclonal antibodies? What are the uses of monoclonal antibodies?<br>How do we identify plant diseases? How do plants defend themselves against pathogens? |
| WC 13/03 | What is homeostasis? |
| WC 20/03 | What is our nervous system? |
| WC 27/03 | How do I respond to my environment? |
| **Half Term 5** | |
| Date | **Topic**: Homeostasis and response |
| WC 17/04 | How fast can I react? **Required practical: Investigating reaction times** |
| WC 24/04 | How does my brain work? How do I see? |
| WC 01/05 | How do I control my body temperature? |
| WC 08/05 | What's a hormone and where are they made? |
| WC 15/05 | How does my body control sugar levels? |
| WC 22/05 | How does my body control water levels? |
| **Half Term 6** | |
| Date | **Topic**: Homeostasis and response |
| WC 05/06 | How do reproductive hormones work? |
| WC 12/06 | How do we prevent pregnancy? |
| WC 19/06 | How can we increase fertility? |
| WC 26/06 | What is negative feedback? |
| WC 03/07 | How do hormones work in plants? |
| WC 10/07 | **Required practical: Investigating the effect of light and growth on newly germinated seedlings**. |
| WC 17/07 | How do humans use plant hormones? |