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**: Bioenergetics
Week 1	Introduction to science (expectations, standards, health and safety, introduction of key skills and assessing prior knowledge).
Week 2	How do plants make glucose?
Week 3	What factors affect photosynthesis?
Week 4	**Required practical: Photosynthesis**
Week 5	How do plants use glucose?
Week 6	How do organisms make energy?
Week 7	How does the body respond to exercise? What is your metabolism?
Half Term 2	
Date	**Topic**: Infection and response
Week 8	What are communicable diseases?
Week 9	How do viruses cause disease?
Week 10	How do bacteria cause disease?
Week 11	How do fungi cause disease?
Week 12	How do protists cause disease?
Week 13	How does the body defend itself against pathogens?
Week 14	
Half Term 3	
Date	**Topic**: Infection and response
Week 15	How does the body defend itself against pathogens?
Week 16	How do vaccines work?
Week 17	How do antibiotics work?
Week 18	How are new drugs developed?
Week 19	What are monoclonal antibodies? What are the uses of monoclonal antibodies?
Week 20	How do we identify plant diseases? How do plants defend themselves against pathogens?
Half Term 4	
Date	**Topic**: Homeostasis and response
Week 21	What is homeostasis? What is our nervous system?
Week 22	How do I respond to my environment?
Week 23	How fast can I react? **Required practical: Investigating reaction times**
Week 24	How does my brain work? How do I see?
Week 25	How do I control my body temperature?
Week 26	What's a hormone and where are they made?
Half Term 5	
Date	**Topic**: Homeostasis and response
Week 27	How does my body control sugar levels? How does my body control water levels?
Week 28	How do reproductive hormones work? How do we prevent pregnancy? How can we increase fertility?
Week 29	What is negative feedback?
Week 30	How do hormones work in plants?
Week 31	**Required practical: Investigating the effect of light and growth on newly germinated seedlings**.
Week 32	
Half Term 6	
Date	**Topic**: Inheritance, variation and evolution.
Week 33	**Year 10 mock exams Work Experience**
Week 34	**Year 10 work experience**
Week 35	How do organisms reproduce? How are gametes formed? Why are there different reproductive methods?
Week 36	What is DNA? What is the structure of DNA?
Week 37	How do I inherit characteristics from my parents?
Week 38	What are genetic disorders?
Week 39	How can I show the chances of having a boy or a girl? Why are we all different?