Armfield Academy – Department of Science

Year 10 Physics 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**: Particle model of matter
WC 30/08	Introduction to science (expectations, standards, health and safety, introduction of key skills and assessing prior knowledge).
WC 06/09	How are particles arranged? How do we calculate density?
WC 13/09	How do we measure the density of a regular shapes, irregular shapes and liquids? **Required practical: Density.**
WC 20/09	What is internal energy?
WC 27/09	What is specific latent heat?
WC 04/10	How do particles behave in a gas?
WC 11/09	What happens to pressure when volume is changed? How does temperature affect the pressure in a gas?
Half Term 2	
Date	**Topic**: Electricity
WC 01/11	How do we draw electrical components? What is current?
WC 08/11	What's the relationship between current, resistance and potential resistance?
WC 15/11	How does the length of a wire affect resistance?
WC 22/11	How does resistance change in series and parallel circuits? **Required practical: Series and parallel resistors**
WC 29/11	How does resistance change with different components? **Required practical: I–V characteristics**
WC 06/12	What's the difference between series and parallel circuits?
WC 13/12	How is electricity supplied in our homes?
WC 20/12	How do I wire a plug?
Half Term 3	
Date	**Topic**: Electricity & Forces
WC 03/01	How do we calculate the power of our electrical devices?
WC 10/01	How is energy transferred in our domestic appliances?
WC 17/01	How does electrical power get to our homes?
WC 24/01	How do static charges build-up? What are electric fields?
WC 31/01	What can I remember from year 7? What is Newton's 3rd Law of motion?
WC 07/02	What is a resultant force? How do we calculate work done?
Half Term 4	
Date	**Topic**: Forces
WC 21/02	What is the relationship between force and extension? **Required practical: Force and extension**
WC 28/02	How can I lift an elephant using the principle of moments? How do I calculate pressure?
WC 07/03	What is atmospheric pressure? How are displacement and distance different?
WC 14/03	What's the difference between speed and velocity? How do we represent speed, distance and time?
WC 21/03	What happens when objects speed up/slow down? What is terminal velocity?
WC 28/03	What is Newton's 1st Law of motion? What is Newton's 2nd Law of motion?
Half Term 5	
Date	**Topic**: Forces
WC 18/04	How do force and mass affect acceleration? **Required Practical: Investigating force and acceleration**
WC 25/04	How quickly can a vehicle stop? How fast can you react?
WC 02/05	Which factors affect braking distance?
WC 09/05	How does energy transfer during braking?
WC 16/05	What is momentum and how do we calculate it?
WC 23/05	How does the change of momentum affect the force on an object?
Half Term 6	
Date	**Topic**: Waves
WC 06/06	What types of waves are there?
WC 13/06	How do we represent waves?
WC 20/06	How suitable is apparatus to measure the frequency, wavelength and speed of waves? **Required practical: Waves**
WC 27/06	What happens when waves hit a surface? **Required practical: Reflection**
WC 04/07	How do we use waves?
WC 11/07	What is the electromagnetic spectrum?
WC 18/07	