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|  | **Half term 1**  **Learning Overview** | **Half term 2**  **Learning Overview** | **Half term 3**  **Learning Overview** | **Half term 4**  **Learning Overview** | **Half term 5**  **Learning Overview** | **Half term 6**  **Learning Overview** |
| **Year 7** | **Cells 1**  Basic structures & functions of cells and organelles |  | **Inheritance 1**  Puberty, menstrual cycle & fertilisation | **Bioenergetics 1**  Basic structures & functions of plants | **Ecology 1**  Habitats, populations and sampling technique’s |  |
|  | **Earth 1**  Rocks, weathering and the rock cycle  **Atoms 1**  Atoms, elements and, compounds and mixtures |  |  | **Periodicity 1**  Using the periodic table and understanding its trends  **Reactions 1**  Exploring and describing simple chemical reactions |  |
| **Energy 1**  Energy stores and calculating energy | **Particles 1**  Particle arrangement & movement | | **Forces 1**  Understanding the differences between forces and how to represent these using diagrams | **Space 1**  Understanding the universe | **Electricity 1**  Understanding key concepts by constructing series and parallel circuits |
| **Year 8** | **Cells 2**  Healthy diets, digestion and enzymes |  | **Inheritance 2**  Understanding adaptations, classifications and variations between species | **Bioenergetics 2**  Respiration, exercise, health and drugs | **Ecology 2**  Feeding relationships and levels or organisation | **Organisation 1**   * The human body and its response |
|  | **Earth 2**  Evolution of the atmosphere, greenhouse gases and the importance of renewable energy | **Atoms 2**  Understanding how to separate mixtures | **Reactions 2**  Acids, alkalis and indicators |  | **Periodicity 2**  Reactivity and reactions of metals & their uses  **Earth 3**  The water cycle and importance of clean water |
| **Electromagnetism 1**  Exploring magnets & magnetic fields | **Forces 2**  Understanding how objects move and how far they move (motion). |  | **Waves 1**  Understanding how waves carry energy and information in air, fluids and solids. | **Forces 3**  Levers, moments and gears |  |
| **Year 9** | **Cells 3**  Exploring structural differences between types of cells and understanding how vital substances are transported around an organism  **Bioenergetics 3**  Exploring how plants harness the Sun’s energy in photosynthesis in order to make food and looking at the effects of temperature, light and carbon dioxide concentration. | **Bioenergetics 3**  Exploring plant hormones, defences and diseases | **Organisation 2**  Understanding how the digestive system works and factors that affect enzyme activity | **Ecology 3**  Understanding how materials are recycled, being released and decomposed. | **Ecology 3**  How humans are threatening biodiversity as well as the natural systems that support it. |  |
| **Periodicity 3**  Exploring the structure and history of the atom and looking at trends in group 1 and 7 | **Earth 4**  Evolution of the atmosphere from the Earth’s early atmosphere | **Reactions 3**  Understanding and exploring the reactivity of metals and how they can be used to make salts |  | **Atoms 3**  Using theories of atomic structure to explain the physical and chemical properties of materials. | **Atoms 4**  Being able to draw and represent the different types of bonding. |
|  | **Energy 2**  Energy changes in a system & calculating the ways it can be stored or transferred .  Global and national energy resources & their impact on the environment | **Electricity 2**  Investigating series & parallel circuits, understanding the differences between components & calculating resistance. | **Particles 2**  The behaviour of solids, liquids and gases & the density of materials | **Forces 4**  Understanding the differences between vectors, scalars, work done and energy transfers & Hookes law  **Waves 2**  Understanding the properties of waves | **Waves 2**  Electromagnetic spectrum properties and applications. |
| **Year 10** | **Infection & response**  Understanding how we can avoid diseases and how our body uses barriers against pathogens. | **Homeostasis**  Exploring the structure and function of the nervous system works & how it can bring about fast responses | **Homeostasis**  The role of hormones in reproduction and in plants | **Ecology**  Understanding how materials are recycled, being released and decomposed. | **Ecology**  How humans are threatening biodiversity as well as the natural systems that support it. | **Ecology**  How humans are threatening biodiversity as well as the natural systems that support it. |
| **Energy changes**  Exploring exothermic & endothermic reactions and the transfer of energy due to bond being broken and made. | **Quantitative chemistry**  Calculations &and analysis to determine the formula of compounds and equations for reactions | **Rate of chemical change**  Factors affecting the rate and extent of chemical reactions | **Rate of chemical change**  Equilibrium reactions, the conditions affecting it and knowing how to maximise yield | **Chemical analysis**  Chemical testing and its advantages and disadvantages | **Chemistry of the atmosphere**  Evolution of the atmosphere from the Earth’s early atmosphere |
| **Forces I**  Understanding the differences between vectors, scalars, work done and energy transfers & Hookes law | **Waves I**  Understanding the properties of waves | **Forces II**  Understanding reaction time, breaking force, stopping distance and impact force to explain how a car is manufactured to ensure it is safe upon impact | | **Waves II**  Electromagnetic spectrum properties and applications.  Lenses and black body radiation | |
| **Year 11** | **Inheritance, variation, evolution**  Understanding how chromosomes halve and combine with new genes and why this sometimes leads to gene mutations  Understanding why scientists may intervene using selective breeding and genetic engineering. | **Recap homeostasis** | **Recap organisation** | Revision in preparation for GCSE exams – planning based on identified cohort/class needs | Revision in preparation for GCSE exams – planning based on identified cohort/class needs | **Inheritance, variation, evolution**  Understanding how chromosomes halve and combine with new genes and why this sometimes leads to gene mutations  Understanding why scientists may intervene using selective breeding and genetic engineering. |
| **Using resources**  Study of how human activity has affected the Earth’s natural cycles, and how damaging effects can be minimised | **Organic chemistry**  The chemistry of carbon compounds, their structure, function & importance. | **Recap rates of reaction** | Revision in preparation for GCSE exams – planning based on identified cohort/class needs | Revision in preparation for GCSE exams – planning based on identified cohort/class needs | **Using resources**  Study of how human activity has affected the Earth’s natural cycles, and how damaging effects can be minimised |
| **Magnetism**  Magnets and magnetic fields. How electromagnets electric motors and generators work. Explaining how transformers work and completing calculations. | **Space**  Life cycle of a star, planets, satellites & orbits. Redshift and the origin of the universe. Also understanding how evidence can change theories and how there is still much about the universe we don’t understand.  **Recap radiation** | **Recap Forces and particle model** | Revision in preparation for GCSE exams – planning based on identified cohort/class needs | Revision in preparation for GCSE exams – planning based on identified cohort/class needs | **Magnetism**  Magnets and magnetic fields. How electromagnets electric motors and generators work. Explaining how transformers work and completing calculations. |