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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
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|   | **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. |