

**Curriculum Intent:**

Year 7 is an opportunity for students to develop a love for scientific learning, and the topics and concepts they cover build a strong foundation for further knowledge to link into in the following years. Students are assessed on their knowledge and application of scientific ideas and techniques and their ability to analyse, evaluate and make judgements on these ideas.

Year 7	HT1	HT2	HT3	HT4	HT5	HT6
<b>Content, Knowledge &amp; Skills</b>	<p><b><u>Introduction to labs</u></b> Students are introduced to secondary science for the first time and as such they will spend time learning and familiarising themselves with working in a school science laboratory, safety rules and how to use scientific equipment correctly.</p> <p><b><u>Cells and organisation</u></b> Students will move onto looking at structure and function of different cells and they will develop their skills in using a light microscope and looking at cells on slides they have prepared themselves. Students will have introduction to levels of organisation from cells to organ systems. Students will also learn about structural adaptations of some unicellular organisms and compare those to multicellular organisms.</p>	<p><b><u>Particle theory</u></b> Students will learn about the properties of solids, liquids, and gases. They will explore changes in state and start to develop an understanding of pressure in gases and diffusion. Students will start looking at evaluating models. Students will start looking at density.</p>	<p><b><u>Human reproduction</u></b> Students will learn about the male and the female reproductive organs and fertilisation. They will be able to describe what happens during gestation and compare human gestation and birth to other animals.</p> <p><b><u>Plant reproduction</u></b> Students will learn about plant reproduction and use their knowledge to plan an investigation into seed dispersal and analyse their results. Students will further develop their knowledge from KS1 and KS2 where they will compare plant and animal reproduction.</p>	<p><b><u>Atoms, elements and compounds</u></b> Students will start to develop fundamental knowledge on atoms, elements and compounds. They will develop practical skills to make a compound.</p> <p><b><u>Pure and impure substances and separation techniques</u></b> Students will look at pure and impure substances. In this section, students will also learn about separation techniques and will build upon their practical skills. There is a variety of opportunity to develop practical skills and students will begin to consider how practical experiments can be improved. Students are also introduced to how to draw accurate scientific graphs and the importance of making hypothesis.</p>	<p><b><u>Forces and their effects</u></b> Students will build their knowledge of forces in action and discuss gravity. They will look at Hooke's Law and investigate extension against force. Students will develop practical skills to measure the extension of a spring due to force applied.</p> <p><b><u>Forces in action</u></b> Students will build their knowledge of friction and they will be introduced to other examples of forces. Students will investigate representing forces on diagrams and calculate forces.</p> <p><b><u>Pressure in fluids</u></b> Students will look at pressure and compare the difference in pressure in a solid, liquid and a gas. They will calculate pressure using force and area and investigate pressure in fluids.</p>	<p><b><u>Relationships in an ecosystem</u></b> Students will learn about feeding relationships between organisms, including the predator-prey cycle. They will learn how to construct and interpret both food chains and food webs. They will also look at the impact of insect pollination on food supply. Students will develop awareness of the impacts that humans have on the populations of endangered species and how we can prevent this.</p>
<b>Purpose / potential</b>	Building foundation to learn about cells in plants	Students are going to look at evaluating models, which is a skill they need and will further develop	Students will move onto studying the menstrual	Students will start to evaluate models of atoms	Students will use the skills learned at KS3 and apply	Students will cover feeding relationships and

<p><b>links to KS4 &amp; future steps</b></p>	<p>and animals at GCSE in Unit 1.3 Combined Science and Unit 1 in Triple Biology. It also builds foundation to learn about the different organ systems in Year 8 and in GCSE Unit 2.1 Combined Science and Unit 2 in Triple Biology.</p>	<p>at GCSE. Students will move onto studying density, specific heat capacity, specific latent heat and meaning of purity at in Units 1.1 and 1.2 from Building blocks, Combined Science and Unit 3 and 4 in Triple Physics.</p>	<p>cycle, hormones and recalling parts of the male and female reproductive organs at GCSE in Unit 3.1 Combined Science and in Unit 5 Triple Biology. They will also look further at the plant structure and see how hormones affect its growth, flowers and develops fruits in Triple Biology Unit 5.4.</p>	<p>at GCSE in Unit 1.2, Combined Science as well as Unit 1 Triple Chemistry, and in the same unit they look more into the history of the development of the atom. In the second section, students will look further into purity and mixtures and look into boiling and melting of specific substances at GCSE in Unit 1.1 Combined Science. When students learn about separation techniques, they will revisit and further cover separation techniques when they cover water purification and making crystals at GCSE in Units 4.1 and 7.3 Combined Science and Unit 4, 8 and 10 in Triple Chemistry.</p>	<p>it to when they are covering elastic deformation and Hooke's Law at GCSE in Unit 6.1 Combined Science and Unit 5 in Triple Physics. From section 2, students will further cover the topic of calculating forces and angles at GCSE in Unit 6.1 Combined Science and Unit 5 in Triple Physics. Students will also cover the topic of pressure in fluids at GCSE in Unit 5 Triple Physics.</p>	<p>ecosystems topic at GCSE in Unit 4 Combined Science and Unit 7 Triple Biology. They will also investigate positive and negative human impacts on ecosystems at GCSE in Unit 4 Combined Science and Unit 7 Triple Biology.</p>
<p><b>Key Vocabulary</b></p>	<p>Risk, hazard, safety, assessment, toxic, poisonous, corrosive, flammable, Bunsen burner, oxygen, tripod, heat proof mat, gas, thermometer, conical flask, equipment, gauze, beaker, test tube, balance, funnel, test tube rack, tongs, animal, plant, nucleus, cell wall, cell membrane, vacuole,</p>	<p>Solids, liquids, gases, particle, properties, arrangement, density, regular, irregular, evaporation, condensation, boiling, cooling, freezing, melting, sublimation, temperature, concentration, force, kinetic energy, collision, asthma, emphysema, cancer, tar, nicotine, carbon monoxide, disease, health, symptoms, causes</p>	<p>Puberty, reproductive system, reproduction, fertilisation, hormones, egg, sperm, male, female, organ, penis, testes, sperm, sperm duct, vagina, ovary, egg, uterus, fallopian tube, gestation, foetus, embryo, zygote, placenta, umbilical cord, amniotic fluid, uterus, growth, menstrual cycle</p>	<p>Atom, molecule, ion, particle, structure, element, compound, mixture, reaction, chemically bonded, evaluate, formulae, reaction, reactant, product, equation, conservation, crucible, pure, impure, filtration, evaporation, distillation,</p>	<p>Forces, contact, non-contact, Newton, Newton meter, weight, mass, gravitational field strength, compression, stretch, Hooke's Law, extension, spring, friction, resistance, drag, floating, sinking, balanced, unbalanced, resultant force, moments,</p>	<p>Food chain, food web, ecosystem, organism, producer, consumer, prey, predator, primary, secondary, carnivore, herbivore, omnivore, interdependence, habitat, adapt, endangered, species, pollination, insect, deforestation, combustion, pesticide, bioaccumulation,</p>

	cytoplasm, chloroplast, ribosome, mitochondria, multicellular, unicellular, photosynthesis.			chromatography, analyse, separating techniques	pressure, temperature, fluid, solid, liquid, gas.	emissions, carbon dioxide, pollution.
<b>Assessment</b>	<p>In class assessments will include naming and drawing scientific equipment and describing a simple method.</p> <p>End of unit test will focus on the following:</p> <ul style="list-style-type: none"> <li>- Knowledge of lab safety, apparatus, and skills</li> <li>- Collect data and present results in graphs</li> <li>- Describe the structure and function of different cells</li> <li>- Use microscopes to investigate cells</li> <li>- Compare unicellular and multicellular organisms</li> </ul>	<p>In class assessments will include diffusion and particle model.</p> <p>End of unit test will focus on the following:</p> <ul style="list-style-type: none"> <li>- Draw and label particle diagrams</li> <li>- Understanding of changing of state of a substance</li> <li>- Collect data and present results in graphs</li> <li>- Knowledge of different factors affecting diffusion</li> </ul>	<p>In class assessments will include fertilisation, child birth and seed dispersal investigation.</p> <p>End of unit test will focus on the following:</p> <ul style="list-style-type: none"> <li>- Describe the reproductive organs and the processes of fertilisation in animals.</li> <li>- Describe the reproductive organs and the processes of fertilisation in plants.</li> <li>- Compare animal and plant reproduction</li> </ul>	<p>In class assessments will include elements, compounds and mixtures, conservation of mass and comparing different separation techniques.</p> <p>End of unit test will focus on the following:</p> <ul style="list-style-type: none"> <li>- Draw and label structure of an atom</li> <li>- Compare elements, compounds and mixtures</li> <li>- Know how to carry out different chemical reactions and represent in equation form.</li> <li>- Knowledge of different separation techniques</li> </ul>	<p>In class assessments will include comparing and calculating mass and weight, investigating Hooke's Law, calculating balanced and unbalanced forces, naming forces and pressure in fluids.</p> <p>End of unit test will focus on the following:</p> <ul style="list-style-type: none"> <li>- Drawing and interpreting extension force graphs.</li> <li>- Describe the effects of balanced and unbalanced forces.</li> <li>- Draw and label force diagrams and calculate a resultant force.</li> <li>- Describe what pressure is (solid, liquid and gas).</li> <li>- Calculate pressure using force and area.</li> </ul>	<p>In class assessments will include comparing and interpreting food chains and food webs, analysing predator-prey graphs and explaining the impact of pesticides on ecosystems.</p> <p>End of unit test will focus on the following:</p> <ul style="list-style-type: none"> <li>- Describe energy flow in a food web</li> <li>- Describe predator prey relationships</li> <li>- Describe the impact of insect pollination on food supply</li> <li>- Explain how organisms affect ecosystems</li> <li>- Explain why organisms become endangered and how it can be prevented.</li> </ul>

**Curriculum Intent:**

Year 8 is an opportunity for student's to build on their understanding of fundamental principles and concepts they were introduced to in Year 7. Students are assessed on their knowledge and application of scientific ideas and techniques and their ability to analyse, evaluate and make judgements on these ideas

Year 8	HT1	HT2	HT3	HT4	HT5	HT6
<b>Content, Knowledge &amp; Skills</b>	<p><b><u>Systems in the Human Body</u></b></p> <p>Students will develop their knowledge of organisation within the human body from year 7. Processes such as aerobic and anaerobic respiration are introduced for the first time. This is then linked to gas exchange in the lungs and digestion in the small intestine. There is a link to PSHE with a focus on how lifestyle choices such as diet can affect health, leading to nutrient deficiencies. Students will add more detail to the organ systems they have learned about, and add to their experience of a science laboratory by exploring the using of equipment such as a spirometer.</p>	<p><b><u>Systems in the Human Body</u></b></p> <p>Students will continue to learn about how nutrients are digested by the body, moving onto structural differences in the breathing and musculoskeletal system. There will be opportunities to independently carry out scientific practicals such as food tests and the dissection of a chicken wing.</p> <p><b><u>Forces and Motion</u></b></p> <p>Students will be introduced to different forces acting upon objects and the effect they have upon them. They will be able to differentiate between unbalanced and unbalanced forces, and start using force diagrams to represent resultant forces.</p>	<p><b><u>Forces and Motion</u></b></p> <p>Students will use their knowledge forces to describe how mass and weight are different. This will be linked to an introduction to Space Science, with lessons on the universe, galaxies, planets and satellites. They will explore why the Earth experiences night and day, and how the Earth's orbit of the sun leads to seasons.</p> <p>At the end of this half term, the students will be introduced to relative motion, and how speed, distance and time can be calculated from graphs.</p>	<p><b><u>Energy</u></b></p> <p>In this unit of work, students will learn about energy stores and their transfer from one store into another. They will also look at heating and cooling, as well as conduction, convection, and radiation.</p>	<p><b><u>Energy</u></b></p> <p>Students will apply their knowledge of energy stores and transfer (from HT4) to develop their evaluation skills when learning about renewable and non-renewable energy resources. Students will be studying energy resources and costs. They will also learn about energy stored in food and investigate this with practical work.</p>	<p><b><u>Plants and Earth</u></b></p> <p>This topic bridges the plants and photosynthesis topics covered at primary level and GCSE level. Students build on what they learned in KS1 and KS2 and lay the foundations for the plants and photosynthesis topics covered at GCSE level. Students will be encouraged to get hands on with plants and describe their structures, functions and processes in more detail than covered at primary level, using more scientific language. Students also develop their investigative skills.</p>
<b>Purpose / potential links to KS4</b>	<p>Students will be introduced to different organ systems with a view to develop the level of detail required for</p>	<p>Students will be introduced to different organ systems with a view to develop the level of detail required for</p>	<p>During this half term, students will be using essential skills such as analysing speed, distance</p>	<p>Here, students will develop their graph skills and practice extrapolating data from graphs to analyse.</p>	<p>Students will be developing skills of comparing energy resources, calculating power and the cost of</p>	<p>This topic will be developed further during unit 2 of the GCSE synergy scheme of work where</p>

<p><b>&amp; future steps</b></p>	<p>Unit 2 of the GCSE Combined Science specification and unit 2 of GCSE Biology.</p>	<p>Unit 2 of the GCSE Combined Science specification and unit 2 of GCSE Biology. Students will represent forces using diagrams which will be needed for both Unit 6 of Combined Science and Unit 5 of GCSE Physics. There will also be development of practical skills which are related to required practical 7(food tests).</p>	<p>and time graphs and using the equations to calculate unknown values. These skills will be needed through unit 7 of the Combines Science GCSE and unit 5 of GCSE Physics.</p>	<p>This Energy unit lays the foundation for the GCSE Combines Science AQA Synergy, units 1.1 and 8. It is also in preparation of unit 1 in the GCSE Physics course. Students will require the knowledge and understanding from this unit in preparation for the Specific Heat Capacity required Practical at GCSE.</p>	<p>electricity. This Energy unit lays the foundation for the GCSE Combines Science AQA Synergy, units 1.1 and 8. It is also in preparation of unit 1 in the GCSE Physics course.</p>	<p>students will be looking at plant organisation, plant disease and photosynthesis. It will also prepare students for unit 1.3 looking at pant cells, and unit 4 where students will study biodiversity  This topic will also prepare students who will study AQA GCSE Chemistry unit 9 looking at global warming, and AQA GCSE Biology units 1, 2, 4 and 8. There will also be development of practical skills which are related to required practical photosynthesis.</p>
<p><b>Key Vocabulary</b></p>	<p>Nutrient, carbohydrate, protein, fibre, fats, calorie, diet, balanced, lifestyle, disease, glucose, respiration, aerobic, anaerobic, energy, lactic acid, ethanol, fermentation, growth, reproduction, excretion,  Mouth, saliva, oesophagus, digestion, stomach, intestine, gut, bladder, rectum, enzymes, anus, pancreas, liver,</p>	<p>Muscles, bones, ligaments, tendons, force, femur, ulna, radius, tibia, fibula, patella, joint, ball, socket, movement, pivot, hinge, knee,  Force, thrust, drag, air resistance, friction, drag, gravity, upthrust, Newtons, measure, balanced, unbalanced, resultant, scale, vector, scalar, direction, particles, acceleration, deceleration, float, sink</p>	<p>Mass, weight, Newtonmeter, spring, extension, length, constant, magnitude, planets, vacuum, space, Asteroids, comets, universe, orbit, solar system, galaxy, atmosphere, speed, distance, time, gradient, relative, motion</p>	<p>Heating curve, Cooling curve, Particles, Table, Graph, Increase, Decrease, Describe, Explain, Conduction, Convection, Radiation, Vibrate, Kinetic energy, Gravitational potential energy, Thermal energy, Chemical energy, Elastic potential energy, Transfer, Electrons, Conductor, Insulator, Heat energy, Dense, Sink, Rise and Convection current.</p>	<p>Renewable energy, Non-renewable energy, Fossil fuels, Nuclear fuel, Wind, Tidal, Wave, Hydroelectric, Geothermal, Solar, Biomass, Joules, Power, Watts, Kilowatts, and Energy bills.</p>	<p>Photosynthesis, Light intensity, variables, anomalies, Validity, Transpiration, Xylem, Phloem, Evaporation, Stomata, Carbon cycle, Atmosphere, Decay, Global warming, Tectonic plates, Rock cycle, Weathering, Recycling</p>

<p><b>Assessment</b></p>	<p>In class assessments test knowledge of aerobic and anaerobic respiration, the respiratory system and what makes a balanced diet.</p> <p>The end of unit test will assess students ability to:</p> <ul style="list-style-type: none"> <li>- Compare the processes of aerobic and anaerobic respiration</li> <li>- Describe how the gas exchange system is adapted</li> </ul>	<p>In class assessments test knowledge of the importance of bacteria in the digestive system and the function of organ systems.</p> <p>The end of unit test will assess students ability to:</p> <ul style="list-style-type: none"> <li>- Identify food groups and explain how they can be tested</li> <li>- Explain how joints work and how muscle groups move the body.</li> <li>- Draw and label a force diagram</li> </ul>	<p>In class assessments test knowledge of balanced and unbalanced forces, mass and weight, and parts of the solar system.</p> <p>The end of unit test will assess the students ability to:</p> <ul style="list-style-type: none"> <li>- Compare mass and weight in different parts of the universe</li> <li>- Calculate mass and weight</li> <li>- Calculate speed, distance and time from graphs and given data</li> <li>- Describe a journey in terms of speed, distance and time</li> </ul>	<p>In class assessments will test graph skills; the ability to construct a graph correctly and describe the graph using data from the graph. Students will also be tested on their knowledge of convection, conduction and radiation.</p> <p>End of unit assessment will assess the students' ability to:</p> <ul style="list-style-type: none"> <li>- Recall the particle model for solids, liquids and gases.</li> <li>- Describe how particles and energy change as materials change state.</li> <li>- Compare conduction convection and radiation.</li> <li>- Describe how energy can be transferred.</li> </ul>	<p>In class assessments will assess students' ability to evaluate different energy resources, calculate energy transfer, and energy bills.</p> <p>End of unit assessments will assess students' ability to:</p> <ul style="list-style-type: none"> <li>- Name energy stores.</li> <li>- Compare and contrast renewable and non-renewable energy resources.</li> <li>- Discuss the cost of energy resources and how household bills can be reduced.</li> </ul>	<p>In class assessments will test students practical skills, and knowledge of how plant survive. It will also look at transport systems in plants.</p> <p>End of unit assessment will look at:</p> <ul style="list-style-type: none"> <li>- Plants and photosynthesis</li> <li>- The carbon cycle</li> <li>- The rock cycle</li> <li>- Earths' atmosphere</li> <li>- Global warming</li> <li>- Structure of the earth.</li> </ul>
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**Curriculum Intent:**

Year 9 is an opportunity for student's to build on their understanding of fundamental principles and concepts they were introduced to in Year 7 and 8. Students are assessed on their knowledge and application of scientific ideas and techniques and their ability to analyse, evaluate and make judgements on these ideas

Year 9	HT1	HT2	HT3	HT4	HT5	HT6
<p><b>Content, Knowledge &amp; Skills</b></p>	<p><b><u>Properties of waves and how sound works</u></b> Students will learn about the general properties of sound waves, comparing transverse and longitudinal waves, features of waves, how to calculate wave speed. Students will learn about how sound travels through a medium and is transferred to the inner ear.</p> <p><b><u>Light waves</u></b> Students will learn about the general properties of light waves. How light travels, changes direction and is detected by the eye. They learn the details how the eye works. They will have chance to use more sophisticated equipment to construct ray diagrams and explain the concept of white light as a</p>	<p><b><u>Electricity and static electricity</u></b> Students will build on their knowledge on circuits. They will learn about series and parallel circuits, conductors and insulators, measuring current and Voltage, charge, how to calculate potential difference and the links between current, resistance and PD. They will explore resistance in circuits.</p> <p><b><u>Magnetism and electromagnetism</u></b> Students will learn about magnetism; that magnets repel and attract other magnets, and attract magnetic substances. They will construct magnetic fields using a compass Students will learn that an electric current in a conductor produces a magnetic field. They students will build and investigate the strength of an electromagnet.</p> <p><b><u>Skills:</u></b></p>	<p><b><u>Periodic table</u></b> Students will learn about the periodic table and materials science, as well as some further knowledge such as the structure of the atom. Students will learn about the role of different scientists in developing the periodic table. Students will also learn about the structure of the atom and electron configuration for the first time. Students look more generally at metals and materials. Students will describe the properties of metals, non-metals, oxides, alloys, ceramics, polymers, and composites. They will explain the properties and their uses using knowledge of their chemical structures.</p>	<p><b><u>Chemical reactions</u></b> Students will learn about chemical reactions in terms of rearrangement of atoms. They will observe and describe named examples of chemical reactions, using word and symbol equations. Students will explore acids and alkalis and how indicators are used to identify pH. They will learn about what happens in a neutralisation reaction and what catalysts do. Students will also look into concepts such as 'exothermic and endothermic reactions</p>	<p><b><u>Genetics and Evolution</u></b> Students will cover all aspects of the heredity and evolution knowledge laid out in the National Curriculum for science at KS3. Students lay the foundations for the relevant topics at KS4 (Unit 4.3 and 4.4 of the AQA Synergy Specification and Unit 6 of the triple Biology curriculum).</p>	<p><b><u>Investigation</u></b> Students will be focusing on investigation skills in preparation for KS4. Students will be working on different experiments where they will be required to write a methodology, equipment list, analyse data and draw conclusions. Students will need to understand the independent and dependent variables as well as the control for these investigations.</p>

	<p>spectrum and how colours are seen.</p> <p><b>Skills:</b> Students will carry out/write up scientific investigations:</p> <ul style="list-style-type: none"> <li>• Students will investigate waves in solids and liquids.</li> <li>• Investigation include looking at splitting light, colour and refraction.</li> <li>• Students will investigate ray diagrams (reflection and refraction).</li> </ul> <p>Students will investigate the speed of sound in air.</p>	<p>Students will carry out/write up scientific investigations:</p> <ul style="list-style-type: none"> <li>• Students will test conductors.</li> <li>• Students will investigate current in series and parallel circuits.</li> <li>• Students will investigate voltage in series and parallel circuits.</li> <li>• Students will investigate static electricity and use a Van der Graff generator.</li> </ul> <p>Students will investigate the strength of an electromagnet.</p>				
<p><b>Purpose / potential links to KS4 &amp; future steps</b></p>	<p>This waves unit will provide a really good basis for the AQA Combined Science Synergy Waves unit (1.4) where students will be able to recap and consolidate knowledge and focus more on the Required Practical elements and exam skills.</p> <p>They will use this knowledge to explain in detail how the eye works, which links to</p>	<p>This unit will help students lay the foundations for the relevant topics at KS4 - Unit 6.3 (Magnetism and Electromagnetism) and 7.2 (Electricity) of the AQA Synergy specification. To further develop knowledge in Physics and to explore and engage pupil's curiosity of the natural world. Students will continue to develop their ability to write and carry out scientific investigations</p>	<p>Students will be introduced to the period table and its patterns. This provides a good basis for unit 5.1 The Periodic Table on the AQA Combined Science GCSE specification. Here, they will observe patterns and relationships between elements of the periodic table. They will then use these observations to predict properties and analyse how these elements combine to form compounds. From this, students will deepen their understanding by deducing chemical equations.</p>	<p>Students will use the knowledge learned at KS3 in the chemistry aspects of AQA Synergy Unit 5 and Units 7.3-7.5. Here, students will learn in more detail about how acids and alkalis react together to establish patterns and make predictions about chemical changes. They will learn about variables that can be manipulated to change the rate of chemical reactions. Using their knowledge of catalysts,</p>	<p>In year 10 and/or 11 they will be able to deepen their understanding of DNA, inheritance and evolution and apply this knowledge to new concepts such as selective breeding and genetic modification.</p>	<p>In year 10 and/or 11 they will be able to deepen their understanding of required practical's for Biology, Chemistry and Physics.</p>

	the triple Biology scheme of work for unit 6.	and then explore more fundamental areas of science.	Students will also be looking into the structure of an atom which will provide them with knowledge on unit 1.2 Atomic Structure on the AQA Combined Science GCSE specification. Here, they will learn about atomic structure and how the model of the atom has developed over time. They will consolidate numeracy skills to master using very large and very small numbers in standard form.	they will also learn about biological catalysts, enzymes.		
<b>Key Vocabulary</b>	Wave, Energy, Transfer, Longitudinal, Transverse, Perpendicular, Parallel, Compression, Refraction, Superposition, Wavelength, Trough, Peak, Amplitude, Frequency, Speed, Pitch, Volume, Oscilloscope, Communication, Sound, Pinnae, Ear Canal, Ear drum, Hammer, Anvil, Stirrup, Cochlea, Fluid Cilia, Ultrasound, Vibrations, Pregnancy, Ultrasonic, Refraction, Reflection, Dispersion, Media, Medium, Boundary, Pupil, Lens, Lenses, Cornea, Iris, Retina, Sclera, Convex, Concave & Converging.	Ammeter, Voltmeter, Potential difference, Resistance, Parallel, Alternating, Circuit Current, Series, Resistor, Electricity, Static, Conducting, Insulating, Voltage, Electrons, Electric field, Ohms, Joules, Charge, Magnets, Permanent, Induced, Magnetic, Poles, Positive, Negative, Magnetism, Attract, Repel, Electromagnetic, Compass, Navigation, Solenoid, Direction, Battery, Coil, Needle, Pivot, Dial, Motor, Amplitude, Frequency, Force, Perpendicular, Parallel, Wire, Fleming's, Friction & Right angles.	Atom, Element, Mixture, Compound, Periodic table, Group, Period, Metal, Non- metal, Atom, Alloys, Ductile, Malleable, Shiny, Brittle, Sonorous, Strength, Properties, Reactivity, Series, Displacement, Observations, Ore, Extract, Copper oxide, Magnesium, Extraction, Ceramics, Polymers, Plastic, Monomer, Poly(ethene), Composite, Oxidation	Chemical reaction, properties, reversible, oxidation, products, reactants, combustion, equations, thermal decomposition, substance, copper oxide, calcium carbonate, displacement, acids, alkalis, universal indicator, neutralisation, salts, pure, soluble, catalysts, endothermic, exothermic	DNA, chromosomes, genes, inheritance, nucleus, egg, sperm, fertilisation, characteristics, variation, heredity, adaptation, evolution, selective breeding, extinction, biodiversity.	

<p><b>Assessment</b></p>	<p>In class assessments will include; the structure of the ear, how sound is transferred, the structure of the eye, how light is transferred.</p> <p>End of unit test will focus on the following:</p> <ul style="list-style-type: none"> <li>• Knowledge of wave properties and calculating wave speed</li> <li>• Develop understanding of how sound waves travel and how we hear sound.</li> <li>• Applying knowledge to explain uses of sound and ultrasound</li> <li>• Describe how light waves behave and construct accurate ray diagrams.</li> <li>• Using the structure of the eye to explain how we see images and colour.</li> <li>• Applying knowledge to explain how lenses work.</li> <li>• Comparing light and sound waves.</li> </ul>	<p>In class assessments will include; circuit symbols, differences between series and parallel circuits, conductors and insulators, circuit calculations, magnetism, strength of electromagnets.</p> <p>End of unit test will focus on the following:</p> <ul style="list-style-type: none"> <li>• Know how electricity is generated and transferred</li> <li>• Draw circuits and investigate resistance in a circuit.</li> <li>• Comparing series &amp; parallel circuits</li> <li>• Knowledge of making an electromagnet.</li> <li>• Discuss magnetic fields and electromagnets.</li> <li>• Knowledge of magnets repel and attract other magnets, and attract</li> <li>• Magnetic substances.</li> <li>• Knowledge of calculating potential difference</li> <li>• Show the links between current, resistance and PD through calculations.</li> <li>• Explaining static electricity.</li> <li>• Explaining the motor effect.</li> </ul>	<p>In class assessments will include the periodic table patterns and metals.</p> <p>End of unit test will focus on the following:</p> <ul style="list-style-type: none"> <li>• Identify features of the periodic table</li> <li>• Describe the development of the periodic table</li> <li>• Label the structure of the atom, identify numbers of subatomic particles, and draw electron configurations</li> <li>• Describe and begin to explain trends in some groups on the periodic table</li> <li>• Describe the properties of metals, non-metals, oxides, alloys, ceramics and polymers</li> <li>• Explain the properties of materials and their uses (including composites)</li> </ul>	<p>In class assessments will include chemical reactions and structure of an atom</p> <p>End of unit test will focus on the following:</p> <ul style="list-style-type: none"> <li>• Describing chemical reactions in terms of rearrangement of atoms</li> <li>• Observing and describing named examples of chemical reactions, including use of word and symbol equations</li> <li>• Defining acids and alkalis and describing how indicators are used to identify pH</li> <li>• Describing what happens in a neutralisation reaction to form salts</li> <li>• Describing what catalysts do to the speed of a reaction</li> <li>• Recognising endothermic and exothermic reactions</li> </ul>	<p>In class assessments will include extracting DNA, investigate variation within their classes, how variation leads to evolution, Darwin or Wallace's work, adaptations and the impact of climate change.</p> <p>End of unit test will focus on the following:</p> <ul style="list-style-type: none"> <li>• Knowledge of DNA and linking genes, DNA and chromosomes</li> <li>• Describing the work of key geneticists</li> <li>• Explaining how characteristics are inherited and how variation occurs</li> <li>• Explaining how variation leads to evolution and describing the theory of evolution by natural selection</li> </ul>	<p>In class assessments will include every investigation to be planned, completed and evaluated accordingly to prepare the students with the process of the required practical's (lab book).</p>
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	<ul style="list-style-type: none"><li>• Describe the order, properties and uses of the EM spectrum.</li></ul>				<ul style="list-style-type: none"><li>• Collecting and interpreting data about variation within a group</li><li>• Explaining why organisms become extinct and evaluating the role of humans in this</li></ul>	
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