

	YEAR 7	YEAR 8	YEAR 9
UNIT 1	<p>Matter 1: Particle Model, States of Matter, Melting and Freezing, Boiling, Elements, Compounds, Mixtures, Solutions, Solubility, Filtering, Evaporation, Distillation, Chromatography.</p> <p>Organisms 1: MRS GREN, Plant and Animal Cells, Observing Plant and Animal Cells, Specialised Cells, Diffusion, Unicellular Organisms, Levels of Organization, Muscles and Joints, Skeleton.</p> <p>Forces 1: Introduction to Forces, Balanced and Unbalanced Forces, Mass and Weight, Making a Newton Meter, Density, Floating and Sinking, Speed, Distance Time Graphs.</p> <p>2 x Topic Quality Assessment 1 x Unit Exam</p>	<p>Earth 2: Evolution of the Atmosphere, Global Warming, Carbon Cycle, Pollutant Gases, Acid Rain, Extracting Metals, Extracting Aluminium, Recycling, Evaluating Materials.</p> <p>Ecology 2: Specialised Plant Cells, Photosynthesis, Plant Organs and Tissues, Diffusion in Plants, Osmosis, Osmosis in Plants Investigation, Plant Minerals.</p> <p>Forces 2: Friction and Air Resistance, Elastic Force, Moments, Moments and Levers, Pressure in Solids, Pressure in Liquids, Pressure in Gases.</p> <p>2 x Topic Quality Assessment 1 x Unit Exam</p>	<p>Atomic Structure and Periodic Table 1: GCSE Transition, Physical Properties, Explaining State Changes, Density and Solubility, Separation Techniques, History of the Atom, Atomic Structure and Isotopes, Atomic Structure and Ions, Symbol equations, History of the Periodic Table, Group 1 Physical and Chemical Properties, Group 7 Physical and Chemical Properties, Group 0 Physical and Chemical Properties, <i>Transition Elements</i>.</p> <p>Molecules and Matter and Radioactivity: Density, States of Matter Revision, Specific Latent Heat, Gas Pressure and Temperature, Discovery of the Nucleus Revision, Alpha Beta Gamma Radiation, Uses of Radiation, <i>Radiation in Medicine, Fission and Fusion</i>.</p> <p>Cell Structure and Transport and Cell Division: Animal and Plant cells, Microscopes, Specialized Cells, Prokaryotes and Eukaryotes, Diffusion, Osmosis, Active Transport, Cell Cycle and Mitosis, Differentiation and Stem Cells, Uses of Stem Cells, Ethics of Stem Cells.</p> <p>2 x Topic Quality Assessment 1 x Unit Exam</p>
UNIT 2	<p>Reactions 1: Periodic Table, Chemical Reactions, Word Equations, Metals and Water, Metals and Oxygen, Metals and Acid, Acids and Alkalis, Neutralization, Making Salt, Displacement.</p> <p>Genes 1: Human Reproduction, Gestation, Puberty, Menstrual Cycle, Pollination, Seed Dispersal, Variation.</p> <p>Energy 1: Energy Stores, Energy Transfers, Food as Fuels, Efficiency, Energy Resources, The Energy Debate.</p> <p>2 x Topic Quality Assessment 1 x Unit Exam</p>	<p>Matter 2: Matter 1 Review, Chemical Formulae, Symbol Equations and Balancing, The Periodic Table, Metal Structure, Properties of Metals, Group 1 Metals, Group 7 Non-Metals, Polymers and Their Properties.</p> <p>Organisms 2: Nutrients and Deficiency, Food Tests, Digestive System, Enzymes, Circulatory System, The Heart, Blood Vessels, Pulmonary System, Respiration, Respiration and Exercise, Biotechnology.</p> <p>Energy 2: Conservation of Energy, Work and Energy, Energy and Temperature, Conduction, Convection, Radiation and Insulation, Insulating the Home, Insulation Investigation.</p> <p>2 x Topic Quality Assessment 1 x Unit Exam</p>	<p>Structure and Bonding and Energy Changes: Ionic Bonding, Giant Ionic Structures and Properties, Ionic Equations, Simple Covalent Bonding, Properties of Simple Covalent Molecules, Giant Covalent Structures, Fullerenes and Graphene, Metallic Bonding and Properties, <i>Nanoparticles and Uses</i>, Exothermic and Endothermic Reactions, Reaction Profiles, Bond Energy Calculations.</p> <p>Energy Transfer By Heating and Energy Resources: Conduction, Convection, Radiation, Specific Heat Capacity, Insulating the Home, Power stations, Energy and Demand – National Grid, Energy Issues.</p>
UNIT 3	<p>Ecology 1: Classification, Food Chains and Webs, Pyramids of Biomass and Numbers, Bioaccumulation, Ecosystems, Adaptations, Sampling.</p> <p>Electricity: Drawing and Building Circuits, Current in Series and Parallel Circuits, Potential Difference in Series and Parallel Circuits, Resistance, Plugs and Fuses, Electrical Safety.</p> <p>Earth and Space: Structure of the Earth, Weathering and Erosion, Sedimentary Rocks, Metamorphic and Igneous Rocks, The Rock Cycle, Ceramics, Day, Night and Seasons, Solar System, Stars and Galaxies</p> <p>2 x Topic Quality Assessment 1 x Unit Exam</p>	<p>Reactions 2: Atoms in Chemical Reactions, Conservation of Mass, Combustion, Precipitation, Thermal Decomposition, Exothermic and Endothermic, Energy Reaction Profiles.</p> <p>Genes 2: DNA and Genes, History of DNA, Extracting DNA, Charles Darwin, Natural Selection, Extinction, Selective Breeding, Genetic Modification, Preserving Biodiversity.</p> <p>Waves 1: Sound Waves and Speed, Pitch and Volume, Ultrasound, Ear and Hearing, Reflection of Light, Light Spectrum and Seeing Colour, Refraction of Light, Lenses and Prisms, Eye and Vision.</p> <p>2 x Topic Quality Assessment 1 x Unit Exam</p>	<p>Organization and The Digestive System and Organizing Animals and Plants: Tissues and Organs, Human Digestive System, Food Chemistry, Digestive System, Enzymes, Factors That Affect Enzymes, Blood, Blood Vessels, Heart, Issues With The Heart, Breathing and Gas Exchange, Tissues and Organs In Plants, Transport In Plants, Evaporation and Transpiration, Factors Affecting Transpiration.</p> <p>2 x Topic Quality Assessment 1 x Unit Exam</p>