

ASHTON COMMUNITY SCIENCE COLLEGE: SCIENCE CURRICULUM

Year 9						
	Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
Knowledge	<u>Biology</u> Cells and Microscopes <u>Chemistry</u> Atoms, Elements, Compounds and Mixtures <u>Physics</u> Particle Model	<u>Biology</u> Cells and Microscopes <u>Chemistry</u> Separation Techniques <u>Physics</u> Density Gas Pressure	<u>Biology</u> Digestion and Enzymes <u>Chemistry</u> The Periodic Table and Atomic Structure <u>Physics</u> Electricity	<u>Biology</u> Digestion and Enzymes <u>Chemistry</u> Ions and Ionic Bonding Covalent Bonding <u>Physics</u> Electricity	<u>Biology</u> Health and Disease <u>Chemistry</u> Conservation of Mass <u>Physics</u> Atomic Structure Radioactivity	<u>Biology</u> Health and Disease <u>Chemistry</u> Metal Extraction <u>Physics</u> Uses and Dangers of Radioactivity
Skills/ application of knowledge	<p>Cells and Microscopes: Animal Cells, Plant Cells, Bacterial Cells, Prokaryotic vs Eukaryotic Cells, Organisation, Microscope Calculations, Using microscopes, Plant Structure.</p> <p>Atom Elements, Compounds and Mixtures: Atoms, Elements, Compounds, Mixtures, Pure Substances, Chemical Formula, Naming Compounds, Balancing Equations.</p> <p>Particle Model: States of Matter, Internal Energy, Changing States, Chemical and Physical Changes.</p>	<p>Cells and Microscopes: Animal Cells, Plant Cells, Bacterial Cells, Prokaryotic vs Eukaryotic Cells, Organisation, Microscope Calculations, Using microscopes, Plant Structure.</p> <p>Separation Techniques: Filtration, Crystallisation, Distillation, Chromatography.</p> <p>Density: Density Calculations, Finding the Density of Regular Objects and Liquids, Finding the Density of Irregular Objects.</p> <p>Gas Pressure: Pressure in Gases, Changing Pressure in Gases, Boyles Law.</p>	<p>Digestion and Enzymes: Structure of the Digestive System, Enzymes, Lock and Key Theory, Food Tests.</p> <p>The Periodic Table and Atomic Structure: History of the Periodic Table, Atomic Structure, Electron Configuration, Isotopes, History of the Atom.</p> <p>Electricity: Circuit Components, Series Circuits, Parallel Circuits, $V=IR$, Resistance of a Wire.</p>	<p>Digestion and Enzymes: Structure of the Digestive System, Enzymes, Lock and Key Theory, Food Tests.</p> <p>Ions and Ionic Bonding: Forming Ions, Ionic Bonding, Ionic Formula.</p> <p>Covalent Bonding: Covalent Bonding, Identifying Gases.</p> <p>Electricity: $Q=It$, $E=QV$.</p>	<p>Health and Disease: Communicable and Non-communicable disease, Vaccinations, Treating Disease, Types of Pathogens, Bacterial, Viral, Fungal, Protist Illnesses.</p> <p>Conservation of Mass: Different Chemical Reactions, Conservation of Mass, Mass Increases During Reactions, Mass Decreases during Reactions.</p> <p>Atomic Structure: Atomic Structure, Isotopes, Models of the Atom</p> <p>Radioactivity: Types of Radioactive Decay, Nuclear Equations, Half-Life</p>	<p>Health and Disease: Communicable and Non-communicable disease, Vaccinations, Treating Disease, Types of Pathogens, Bacterial, Viral, Fungal, Protist Illnesses.</p> <p>Metal Extraction: Properties of Metals and Non-metals, Reactions with Acids, Displacement Reaction, Heating with Carbon, Electrolysis, Aluminium Oxide Extraction, Alternative Extraction Methods, Oxidation and Reduction.</p> <p>Radioactivity: Dangers and Uses of Radiation, Contamination and Irradiation, Background Radiation, Nuclear Fission, Nuclear Fusion.</p>
Links to prior learning	<ul style="list-style-type: none"> Year 7 Cells Year 7 Elements and Compounds Year 7 Particle Model Year 8 Photosynthesis 	<ul style="list-style-type: none"> Year 7 Cells Year 7 Separating Mixtures Year 7 Particle Model Year 8 Photosynthesis 	<ul style="list-style-type: none"> Year 7 Voltage, Current and Resistance Year 8 Digestion Year 8 Atomic Structure Year 8 Periodic Table 	<ul style="list-style-type: none"> Year 7 Voltage, Current and Resistance Year 8 Digestion Year 8 Atomic Structure 	<ul style="list-style-type: none"> Year 9 Cell structure Year 7 Metals Year 7 Earth's Resources Year 8 Atomic Structure Year 8 Chemical Reactions 	<ul style="list-style-type: none"> Year 7 Energy Transfers Year 8 Periodic Table Year 9 Cell structure
Assessment	<u>Cells and Microscopes CAP 1 and CAP 2</u> <u>Atoms Elements and Compounds CAP</u> <u>Particle Model CAP</u>	<u>Cells and Microscopes CAP 3</u> <u>Chem Exam 1 (Sep Techniques)</u> <u>Density CAP</u>	<u>Digestion and Enzymes CAP 1, CAP 2 and CAP 3</u> <u>Chem Exam 2 (Periodic Table and Atomic Structure)</u> <u>Electricity CAP 1 (Circuit Symbols)</u>	<u>Digestion and Enzymes CAP 4</u> <u>Ionic Bonding CAP</u> <u>Covalent Bonding CAP</u> <u>Electricity CAP 2 (End of Unit)</u>	<u>Health and Disease CAP 1</u> <u>Radioactivity CAP 1 (alpha, beta, gamma)</u>	<u>Health and Disease CAP 2 and CAP 3</u> <u>Chem Exam 3 (Metal Extraction)</u> <u>Radioactivity CAP 2 (End of Unit)</u> End of Year Exams