

# ASHTON COMMUNITY SCIENCE COLLEGE: SCIENCE CURRICULUM

Year 8						
	Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
Knowledge	<p><u>Biology: Movement</u> <i>Q How does our body move?</i></p> <p><u>Biology: Digestion</u> <i>Q What happens to the food that we eat?</i></p> <p><b>BIO TEST 1</b></p> <p><u>Physics: Energy Transfers</u> <i>Q If energy cannot be destroyed where does it go?</i></p>	<p><u>Physics: Energy Costs</u> <i>Q How much does it cost to run a home?</i></p> <p><b>PHYS TEST 1</b></p> <p><u>Chemistry: Atomic Structure</u> <i>Q Everything in the world is made from tiny particles called atoms, but what are atoms made from?</i></p> <p><u>Chemistry: Periodic Table</u> <i>Q What does the position of an element on the periodic table tell you about the element?</i></p> <p><b>CHEM TEST 1</b></p>	<p><u>Physics: Gravity</u> <i>Q Why would you weigh less on the Moon than the Earth?</i></p> <p><u>Physics: The Universe</u> <i>How can the movement of objects in space explain life experiences for us on Earth?</i></p> <p><b>PHYS TEST 2</b></p> <p><u>Biology: Inheritance, Variation and Evolution</u> <i>Q Where do our differences come from?</i> <i>Q Where does a new species come from?</i></p> <p><b>BIO TEST 2</b></p>	<p><u>Physics: Contact Forces</u> <i>Q How can you make an object change speed, change shape or change direction?</i></p> <p><u>Physics: Speed</u> <i>Q How do you know how fast you are travelling on a journey?</i></p> <p><u>Physics: Pressure</u> <i>Q Why don't camels sink into the sand in the desert?</i></p> <p><b>PHYS TEST 3</b></p>	<p><u>Chemistry: Chemical Reactions</u> <i>Q Everything in the world is made from tiny particles called atoms. What happens to these atoms when substances react together?</i></p> <p><u>Chemistry: Acids and Alkalis</u> <i>Q A bee sting is acidic and a wasp sting is alkaline – or is it the other way round? How can we find out?</i></p> <p><u>Chemistry: Chemical Energy</u> <i>Q What energy changes take place during a chemical reaction?</i></p> <p><b>CHEM TEST 2</b></p>	<p><u>Biology: Photosynthesis</u> <i>Q Could humans survive without plants?</i></p> <p><u>Biology: Interdependence</u> <i>Q Why is biodiversity important?</i></p> <p><b>BIO TEST 3</b></p> <p><u>Physics: Wave Properties and Wave Effects</u> <i>Q What is the Electromagnetic Spectrum and why are the parts of it both useful and dangerous?</i></p> <p><u>Physics: Heating and Cooling</u> <i>Q How can heat be transferred?</i></p> <p><b>PHYS TEST 4</b></p>
Skills/ application of knowledge	<p><b>Movement:</b> The Skeleton, Muscles, Joints, Dissection, Arthritis.</p> <p><b>Digestion:</b> Food Groups and Balanced Diets, The Digestive System, Enzymes, Energy in Food, Orange Juice Titration.</p> <p><b>Energy Transfers:</b> Different Types of Energy, Energy Transfers, Energy Stores, Wasted Energy, Efficiency.</p>	<p><b>Energy Costs:</b> Energy Resources, Alternative Energy Resources, Joule Island, Energy Usage, Electricity Bills, Energy in Food.</p> <p><b>Atomic Structure:</b> Atomic Structure, Electron Configuration, History of the Atom.</p> <p><b>Periodic Table:</b> Structure of the Periodic Table, History of the Periodic Table, Group 1, Group 7, Group 0.</p>	<p><b>Gravity:</b> Mass vs Weight, Gravity.</p> <p><b>The Universe:</b> Stars and Galaxies, The Solar System, Eclipses, Days and Nights, Seasons, Space Exploration.</p> <p><b>Inheritance, Variation and Evolution:</b> Causes of Variation, Continuous and Discontinuous Variation, Natural Selection, Darwin's Finches, Extinction, Biodiversity.</p>	<p><b>Contact Forces:</b> Forces, Balanced and Unbalanced Forces, Resultant Forces. Floating and Sinking, Friction, Streamlining, Stretching.</p> <p><b>Speed:</b> Resultant Forces, Calculating Speed, Investigating Speed, Distance Speed Graphs.</p> <p><b>Pressure:</b> Pressure, Pressure Calculations, Pressure in Fluids, Hydraulics.</p>	<p><b>Chemical Reactions:</b> Chemical and Physical Changes, Combustion, Thermal Decomposition, Displacement, Conservation of Mass, Balancing Equations.</p> <p><b>Acids and Alkalis:</b> Identifying Acids and Alkalis, The pH scale, Making an Indicator, Neutralisation, Applications of Neutralisation.</p> <p><b>Chemical Energy:</b> Exothermic and Endothermic Reactions, Catalysts, Energy Levels.</p>	<p><b>Photosynthesis:</b> Photosynthesis, Structure of the Leaf, Testing a Leaf for Starch, Rate of Photosynthesis.</p> <p><b>Interdependence:</b> Food Chains, Food Webs, Factors Affecting Populations, Bioaccumulation.</p> <p><b>Heating and Cooling:</b> Heat and Temperature, Conduction, Convection, Radiation, Insulation, Specific Heat Capacity.</p> <p><b>Wave Properties and Wave Effects:</b> Types of Waves, Wave Calculations, The Electromagnetic Spectrum, Ultrasound.</p>
Links to prior learning	<ul style="list-style-type: none"> <li>KS2 Animals, including humans</li> <li>Year 7 Cells</li> <li>Year 7 Respiration</li> </ul>	<ul style="list-style-type: none"> <li>Year 7 Particle Model</li> <li>Year 7 Elements and Compounds</li> </ul>	<ul style="list-style-type: none"> <li>KS2 Evolution and Inheritance</li> <li>KS2 Living things and habitats</li> <li>KS2 Earth and space</li> <li>KS2 Forces</li> </ul>	<ul style="list-style-type: none"> <li>KS2 Forces</li> <li>KS2 Forces and Magnets</li> </ul>	<ul style="list-style-type: none"> <li>KS2 Properties and changes of materials</li> <li>Year 7 Metals</li> </ul>	<ul style="list-style-type: none"> <li>KS2 Plants</li> <li>KS2 Living things and habitats</li> <li>KS2 Animals, including humans</li> </ul>
Assessment	<p><b>Biology 1 Assessment</b></p> <p><b>Digestion CAP</b></p>	<p><b>Physics 1 Assessment</b></p> <p><b>Chemistry 1 Assessment</b></p>	<p><b>Physics 2 Assessment</b></p> <p><b>Biology 2 Assessment</b></p>	<p><b>Physics 3 Assessment</b></p>	<p><b>Chemistry 2 Assessment</b></p>	<p><b>Biology 3 Assessment</b></p> <p><b>Physics 4 Assessment</b></p> <p><b>End of Year Exams</b></p>