

# ASHTON COMMUNITY SCIENCE COLLEGE: SCIENCE CURRICULUM

Year 7						
	Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
Knowledge	<p>Introduction to Science Skills</p> <p><b>KEY SKILLS ASSESSMENT</b></p> <p><u>Biology: Cells</u> <i>Q What are we made of?</i></p> <p><u>Biology: Human Reproduction</u> <i>Q Where does life begin?</i></p>	<p><u>Biology: Plant Reproduction</u> <i>Q Where does life begin?</i></p> <p><b>BIO TEST 1</b></p> <p><u>Physics: Sound</u> <i>Q How are we able to hear so many different notes being played on a musical instrument?</i></p> <p><u>Physics: Light</u> <i>Q Why is light essential for viewing the world?</i></p> <p><b>PHYS TEST 1</b></p>	<p><u>Chemistry: Particle Model</u> <i>How does the arrangement of the particles affect the properties of the substance?</i></p> <p><u>Chemistry: Elements and Compounds</u> <i>Q Everything in the world is made from tiny particles called atoms. But how can these atoms combine to form different substances?</i></p> <p><u>Chemistry: Separating Mixtures</u> <i>Q How can you separate this mixture?</i></p> <p><b>CHEM TEST 1</b></p>	<p><u>Physics: Voltage, Current and Resistance</u> <i>Q What do you know about the equation: current = voltage ÷ resistance?</i></p> <p><u>Physics: Magnetism and Electromagnets</u> <i>Q Magnetism – you can't see this force or touch this force, so how do you know it's there?</i></p> <p><b>PHYS TEST 2</b></p> <p><u>Biology: Breathing</u> <i>Q How does our body keep us alive?</i></p>	<p><u>Biology: Respiration</u> <i>Q Where does our energy come from?</i></p> <p><b>BIO TEST 2</b></p> <p><u>Chemistry: Metals</u> <i>Q How do metals react?</i></p> <p><u>Chemistry: Earth Resources</u> <i>Q What useful materials do we get from the Earth? Q How can we protect the Earth's resources?</i></p>	<p><u>Chemistry: Climate and Fuels</u> <i>Q How are humans destroying the Earth?</i></p> <p><b>CHEM TEST 2</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 3</b></p>
Skills/ application of knowledge	<p><b>Science Skills:</b> Safety, Equipment, Measuring and Recording, Extended Writing, Rounding, Averages, Percentages, Identifying Variables, Plotting Graphs, Extrapolating Data.</p> <p><b>Cells:</b> Microscopes, Animal Cells, Plant Cells, Specialised Cells, Diffusion, Unicellular organisms.</p> <p><b>Human Reproduction:</b> Reproductive Organs, Menstrual Cycle, Fertilisation, Foetal Development.</p>	<p><b>Plant Reproduction:</b> Structure of a Flower, Methods of Pollination, Plant Fertilisation, Seed Dispersal, Biodiversity.</p> <p><b>Sound:</b> Investigating Sounds, Sound Waves, Hearing Sounds, The Ear, Hearing Problems.</p> <p><b>Light:</b> How Light Travels, Reflection, Refraction, Using Refraction, Sight Problems, Dispersion, Seeing Colours/</p>	<p><b>Particle Model:</b> Investigating Solids, Liquids and Gases, Changing State, Floating and Sinking, Density, Gas Pressure.</p> <p><b>Elements and Compounds:</b> Atoms, Elements and Compounds, Investigating Elements and Compounds, Relative Formula Mass.</p> <p><b>Separating Mixtures:</b> Investigating Solubility, Filtration, Crystallisation, Distillation, Chromatography.</p>	<p><b>Voltage, Current and Resistance:</b> Simple Circuits, Modelling Circuits, Current, Voltage, Series and Parallel, Investigating Potential Difference, Resistance, Investigating Resistance.</p> <p><b>Magnetism and Electromagnets:</b> Magnetism, Magnetic Fields, Earth's Magnetic Fields, Electromagnets Investigation, Uses of Electromagnets.</p> <p><b>Breathing:</b> Breathing System, How we Breathe, Investigating Height and Lung Volume, Breathing Measurements, Asthma, Smoking.</p>	<p><b>Respiration:</b> Respiration, Aerobic and Anaerobic Respiration.</p> <p><b>Metals:</b> Properties of Metals and Non-Metals, Reactions of Metals with Oxygen, Reactions of Metals with Acids, Displacement Reactions, Making Metal Salts.</p> <p><b>Earth Resources:</b> Earth Structure, Sedimentary, Igneous and Metamorphic Rocks, Extracting Metals, Using Earth's Resources, Recycling.</p>	<p><b>Climate and Fuels:</b> Fuels, Combustion, Pollutants, Global Warming, Acid Rain, Global Dimming, Reducing Pollutants.</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>
Links to prior learning	<ul style="list-style-type: none"> <li>KS2 Living Things and Habitats</li> <li>KS2 Animals, including humans</li> </ul>	<ul style="list-style-type: none"> <li>KS2 Plants</li> <li>KS2 Living things and habitats</li> <li>KS2 Sound</li> <li>KS2 Light</li> </ul>	<ul style="list-style-type: none"> <li>KS2 States of Matter</li> <li>KS2 Properties and changes of materials</li> </ul>	<ul style="list-style-type: none"> <li>KS2 Electricity</li> <li>KS2 Forces and Magnets</li> <li>KS3 Cells</li> </ul>	<ul style="list-style-type: none"> <li>KS2 Properties and Changes of materials</li> <li>KS2 Rocks</li> <li>KS3 Breathing</li> </ul>	<ul style="list-style-type: none"> <li>KS2 Living things and their habitats</li> </ul>
Assessment	<p><b>Key Skills Assessment</b></p> <p><b>Cells CAP (Animal and Plant Cells)</b></p>	<p><b>Biology 1 Assessment</b></p> <p><b>Physics 1 Assessment</b></p>	<p><b>Elements and Compounds CAP</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>Chemistry 2 Assessment</b></p> <p><b>Physics 3 Assessment</b></p> <p><b>End of Year Exams</b></p>