

YEAR 7 CURRICULUM INFORMATION – KS3 Science

	Autumn 1	Autumn 2
What will students be learning?	<p><b><u>Biology:</u></b>  <b>Cells and organisms</b></p> <ul style="list-style-type: none"> <li>• Observing cells</li> <li>• Plant and animal cells</li> <li>• Specialised cells</li> <li>• Movement of substances</li> <li>• Unicellular organisms</li> <li>• Using a microscope</li> </ul> <p><b><u>Chemistry:</u></b>  <b>The particle model</b></p> <ul style="list-style-type: none"> <li>• The particle model</li> <li>• States of matter</li> <li>• Melting and freezing</li> <li>• Boiling</li> <li>• More changes of state</li> <li>• Diffusion</li> <li>• Gas pressure</li> <li>• Inside particles</li> </ul> <p><b><u>Physics:</u></b>  <b>Energy costs and transfers</b></p> <ul style="list-style-type: none"> <li>• Food and fuels</li> <li>• Energy resources</li> <li>• Fossil fuels and power stations</li> <li>• Renewable energy</li> <li>• Energy and power</li> <li>• Energy adds up</li> <li>• Energy dissipation</li> </ul> <p><b><u>Science Skills:</u></b>            All students will study Science skills to include lessons on <b>safety in the science laboratory and taking measurements</b> in scientific investigations</p>	<p><b><u>Biology:</u></b>            Complete <b>Cells and organisms</b> unit            Move on to the unit of <b>Movement</b></p> <ul style="list-style-type: none"> <li>• Levels of organisation</li> <li>• The skeleton</li> <li>• Movement: joints</li> <li>• Movement: muscles</li> </ul> <p><b><u>Chemistry:</u></b>            Complete <b>The particle model</b> unit            Move on to unit of <b>Separating mixtures</b></p> <ul style="list-style-type: none"> <li>• Pure substances and mixtures</li> <li>• Solutions</li> <li>• Solubility</li> </ul> <p><b><u>Physics:</u></b>            Complete <b>Energy costs and transfers</b> unit            Move on to the unit of Forces and speed</p> <ul style="list-style-type: none"> <li>• Introduction to forces</li> <li>• Balanced and unbalanced forces</li> <li>• Speed</li> </ul> <p><b><u>Science Skills:</u></b>            Complete <b>Safety and measurements</b> unit            Move on to the unit of <b>scientific calculations</b></p> <ul style="list-style-type: none"> <li>• Using a calculator, calculating mean and range</li> <li>• Calculating percentages</li> <li>• Substituting values into formulas and rearranging formulas</li> <li>• Measuring and converting time</li> </ul>

	<ul style="list-style-type: none"> <li>• General lab safety and practices</li> <li>• Equipment in the lab</li> <li>• Hazard symbols</li> <li>• Using a Bunsen burner</li> <li>• Measuring length, distance and time</li> <li>• Measuring mass and volume</li> </ul>	
How will students be assessed?	<p>Milestone assessments In lesson interim knowledge checks Independent homework tasks</p>	<p>Milestone assessments In lesson interim knowledge checks Independent homework tasks</p>
Literacy – What keywords will be taught?	<p><b>Biology:</b> microscope, observation, nucleus, cell membrane, cytoplasm, mitochondria, respiration, cell wall, vacuole, chloroplast, structural adaptations, specialised cell, nerve cell, red blood cell, sperm cell, leaf cell, root hair cell, diffusion, concentration, uni-cellular, amoeba, euglena, flagellum, multi-cellular, tissue, organ, organ system, circulatory system, respiratory system, reproductive system, digestive system, immune system</p> <p><b>Chemistry:</b> material, particle, mixture, substance, property, particle model, density, solid, liquid, gas, states of matter, melt, change of state, freeze, melting point, boil, boiling point, evaporate (evaporation), condense (condensation), sublime (sublimation), diffuse, gas pressure,</p> <p><b>Physics:</b> energy, joules, kilojoules, energy resources, fossil fuels, non-renewable, renewable, watts, power, kilowatts, kilowatt hours, law of conservation of energy, chemical energy store, dissipated</p>	<p><b>Biology:</b> bone, skeleton, muscular skeletal system, bone marrow, joints, cartilage, ligaments, tendons, antagonistic muscle pair, cell</p> <p><b>Chemistry:</b> pure substance, solution, dissolve, solvent, solute, saturated solution, solubility, soluble (insoluble), solubility curve, filtration, filtrate, residue, distillation, chromatography, chromatogram</p> <p><b>Physics:</b> push, pull, contact force, friction, air resistance, gravity, non-contact force interaction pair, newtonmeter, newton (N), resultant force, balanced. equilibrium, unbalanced, driving force, resistive force, speed, metres per second, average speed, relative motion, distance-time graph, acceleration</p>
What employability skills are being developed?	<p>Interpersonal skills Group work Logical and lateral thinking Developing links between topics and ideas Investigative skills Analytical skills</p>	<p>Interpersonal skills Group work Logical and lateral thinking Developing links between topics and ideas Investigative skills Analytical skills</p>
Wider Curriculum Links?	<p>Maths: measuring angles</p>	<p>Maths: measuring angles</p>

	Food/gardening/horticulture Links with other STEM subjects	Food/gardening/horticulture Links with other STEM subjects
What useful websites are there for this topic?	BBC Bitesize KS3 Science <a href="#">KS3 Science - BBC Bitesize</a>	BBC Bitesize KS3 Science <a href="#">KS3 Science - BBC Bitesize</a>
What wider reading could be done for this topic?	There are a selection of KS3 revision guides available online such as: CGP <a href="#">KS3 Science   CGP Books</a> Oxford University Press: Activate KS3 Science	There are a selection of KS3 revision guides available online such as: CGP <a href="#">KS3 Science   CGP Books</a> Oxford University Press: Activate KS3 Science
What else can students be doing independently to develop their understanding of this topic?	Regularly reviewing work and topics completed in lessons Completing further reading around the topics covered Revise for milestone assessments Practice mathematical skills such as range, mean, percentages and graph skills etc	Regularly reviewing work and topics completed in lessons Completing further reading around the topics covered Revise for milestone assessments Practice mathematical skills such as range, mean, percentages and graph skills etc