

Trinity 2			Michaelmas 1		Michaelmas 2		Lent 1		Lent 2		Trinity 1
June	July	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	
Brief overview how the intended learning over the year			Pupils in year 7 build upon the key scientific concepts they completed at KS2. This is achieved through a sequenced curriculum delivered through the 10 big ideas of science which are introduced in year 7 and developed further through to year 11.								
Topic/Big Question			Skills in Science	Particle Model	Movement and Cells	Speed and Gravity	Separating Mixtures	Energy Costs and Transfers	Acids and Alkalis	Interdependence	
Theme(s)			Working Scientifically	Matter	Organisms	Forces	Matter	Energy Costs and Transfers	Reactions	Organisms	
Key Knowledge			<ul style="list-style-type: none"> <li>recognising rules for working safely in the lab</li> <li>different pieces of apparatus for their uses</li> <li>lighting and using a Bunsen burner.</li> </ul>	<ul style="list-style-type: none"> <li>particle model</li> <li>states of matter and properties</li> <li>changes of state including melting, freezing, boiling and evaporation</li> <li>diffusion and gas pressure</li> </ul>	<ul style="list-style-type: none"> <li>levels of organisation in organisms</li> <li>structure and function of the skeleton</li> <li>the role of joints and muscles</li> <li>plant and animal cells</li> <li>specialised cells</li> <li>diffusion of substances in cells</li> <li>unicellular organisms</li> </ul>	<ul style="list-style-type: none"> <li>types of forces</li> <li>balanced and unbalanced forces</li> <li>resultant forces</li> <li>calculating speed</li> <li>distance time graphs</li> <li>mass, weight and gravity</li> </ul>	<ul style="list-style-type: none"> <li>how solutions are produced</li> <li>solubility of solutions</li> <li>saturated solutions</li> <li>how to separate solutions using filtration, crystallisation, distillation and chromatography.</li> </ul>	<ul style="list-style-type: none"> <li>different energy stores</li> <li>how energy can be transferred via different pathways</li> <li>dispipation of energy</li> <li>energy efficiency</li> <li>energy resources</li> <li>food as a fuel</li> <li>the ways that energy use can be calculated in homes.</li> </ul>	<ul style="list-style-type: none"> <li>how to identify that a chemical reaction has taken place</li> <li>properties of acids and alkalis</li> <li>pH scale</li> <li>neutralisation</li> <li>making salts</li> <li>properties of metals and non-metals</li> <li>reactions of metals with oxygen, acids and water</li> <li>the reactivity series</li> <li>displacement reactions</li> </ul>	<ul style="list-style-type: none"> <li>food chains and webs and what happens when they are disrupted</li> <li>ecosystems</li> <li>competition within the ecosystem</li> <li>structure and function of the parts of a flower</li> <li>pollination</li> <li>plant fertilisation and germination</li> <li>seed dispersal.</li> </ul>	
Key Skills			Use scientific vocabulary and selection of suitable apparatus.	Use scientific models, diagrams and key vocabulary to explain scientific concepts. They should also analyse data to determine when a change of state has taken place.	How to use a microscope, make observations and draw conclusions from observations. They should also use scientific diagrams and key vocabulary to explain scientific concepts.	Identify variables, collect and analyse data. They should also use scientific models, diagrams and key vocabulary to explain scientific concepts.	Identify variables, collect and analyse data to allow them to draw suitable conclusions. They should also use scientific diagrams, models and vocabulary to explain scientific concepts.	Identify variables, collect and analyse data to allow them to draw suitable conclusions. They should also be able to compare and evaluate the different energy resources available.	Use scientific models and key vocabulary to explain scientific concepts, collect data from an experiment, analyse and use it to draw scientific conclusions from their investigation.	Recognise, interpret and construct scientific diagrams and models. They should also use scientific diagrams, models and key vocabulary to explain scientific concepts.	
Assessment			Practical to assess skills - Bunsen burner licence.	End of unit learning checkpoint.  Extended answer on changes of state	End of unit learning checkpoint.  Extended answer on action of muscles.	End of unit learning checkpoint.  Extended answer on investigating speed.	End of unit learning checkpoint.  Extended answer on solubility curves.	End of unit learning checkpoint.  Extended answer on investigating energy content in food.	End of unit learning checkpoint.  Extended answer on the uses of neutralisation	End of unit learning checkpoint.  Extended answer on predator/prey relationships.	
Careers				Chocolatier Perfumer	Podiatrist - external speaker Prosthetist Cell biologist Biomedical engineer	Aerodynamicist Aerospace engineer Ride engineer	Cosmetic scientist Forensic scientist Hairdresser	External - Renewable energy engineer	Agricultural scientist	Botanist Entomologist	
Personal and Spiritual Development				Spirituality - awe and wonder of creation Relationship with others during practical work Rule of law - health and safety during practical work	Healthy living - healthy bones and muscles Rule of law - health and safety during practical work	Relationship with others during practical work Rule of law - health and safety during practical work	Relationship with others - mutual respect through practical work. Rule of law - health and safety during practical work	Stewardship - looking after the Earth. Citizenship - consider the social issues surrounding the use of renewable energy Relationship with others during practical work Rule of law - health and safety during practical work	Relationship with others during practical work. Healthy living - uses of neutralisation when cleaning teeth, treating stings Responsible use of chemicals in growing crops	Stewardship - relationship with God Spirituality - Awe and wonder of the natural world and ecosystems. Courageous advocacy - protecting bees for pollination Citizenship - human impact on food chains	
Any other key information (if relevant)				This builds on ideas introduced at KS2	This builds on ideas introduced at KS2	This builds on ideas introduced at KS2	This builds on the ideas introduced during the Particle model unit		This builds on the ideas introduced during the Particle model unit and Separating mixtures	This builds on ideas introduced at KS2	