

Inspire	Explore	Nurture	Thrive	Specialist Provision	College
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## Science – Long Term Plan



Key Stage 3	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Inspire Pathway</b>						
<b>Year 7</b>	<b>Biology – Cells.</b> <ul style="list-style-type: none"> <li>- Study a range of plant and animal cells.</li> <li>- Microscopes.</li> <li>- Identify key components of cells.</li> <li>- Cells, tissues and organs.</li> <li>- Specialised cells.</li> </ul> <b>Chemistry - Acids and alkalis.</b> <ul style="list-style-type: none"> <li>- hazard symbols</li> <li>- Identification of acids and alkalis - Carryout neutralisation reactions.</li> <li>- Use different indicators.</li> <li>- Make indicators.</li> </ul>		<b>Chemistry - Acids and alkalis.</b> Continue and assess. <b>Physics – Circuits, electricity and magnetism.</b> <ul style="list-style-type: none"> <li>- Build circuits.</li> <li>- Identify key components.</li> <li>- Investigate static.</li> <li>- Identify magnetic materials.</li> </ul>		<b>Physics - Circuits, electricity and magnetism.</b> Continue and assess. <b>Physics – Forces.</b> <ul style="list-style-type: none"> <li>- Identify forces.</li> <li>- Investigate forces.</li> </ul>	
<b>Year 8</b>	<b>Biology – Structure and function of body systems.</b> <ul style="list-style-type: none"> <li>- Identify organs.</li> <li>- Describe roles.</li> <li>- Identify bones and describe their role. - Importance of exercise in health.</li> </ul> <b>Chemistry – Atoms, elements and compounds.</b> <ul style="list-style-type: none"> <li>- Identify elements and compound.</li> <li>- Chemical reactions.</li> </ul>		<b>Chemistry – Atoms, elements and compounds.</b> Continue and assess. <b>Physics – Space.</b> <ul style="list-style-type: none"> <li>- Recall facts.</li> <li>- Link ideas.</li> <li>- Investigate mass and weight.</li> </ul>		<b>Biology – Ecosystem processes and adaptations.</b> <ul style="list-style-type: none"> <li>- Identify predator and prey species.</li> <li>- Aware of the importance of biodiversity.</li> <li>- Interdependence.</li> <li>- Food chains and food webs.</li> <li>- Investigate the habitat around them.</li> </ul>	

Inspire	Explore	Nurture	Thrive	Specialist Provision	College
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## Science – Long Term Plan



	- Define key words.	- Look at the wonders of our solar system. - Research planets.	
<b>Year 9</b>	<b>AQA – ELC science</b>		
	<b>Key stage 3 – Chemistry– Separation techniques.</b> - Recall facts. - Link ideas.	<b>Chemistry - Component 3 – Element, Mixture and compounds.</b> Continue the unit	<b>Physics - Component 6 – Electricity, magnetism and waves.</b> Continue the unit.
	- Investigate separation techniques.. - Look particle diagrams. - Change of state.  While working towards  <b>Chemistry - Component 3 – Element, Mixture and compounds.</b> - Designing an investigation. - Independence. - Recalling key facts. - Linking ideas.	TDA and ESA assessment administered.  <b>Key stage 3 – Physics - Sound and light -</b> Recall facts. - Link ideas. - Investigate reflection and refraction.  <b>Physics - Component 6 – Electricity, magnetism and waves.</b> - Designing an investigation. - Independence. - Recalling key facts. - Linking ideas.	TDA and ESA assessment administered.

Inspire	Explore	Nurture	Thrive	Specialist Provision	College
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## Science – Long Term Plan



Key Stage 3	Autumn A	Autumn B	Spring A	Spring B	Summer A	Summer B
<b>Explore+ Pathway</b>						
Year 7	<b>Biology – Cells.</b> <ul style="list-style-type: none"> <li>- Study a range of plant and animal cells.</li> <li>- Microscopes.</li> <li>- Identify key components of cells.</li> <li>- Cells, tissues and organs.</li> <li>- Specialised cells.</li> </ul> <b>Chemistry - Acids and alkalis</b> <ul style="list-style-type: none"> <li>- hazard symbols</li> <li>- Identification of acids and alkalis - Carryout neutralisation reactions.</li> <li>- Use different indicators.</li> <li>- Make indicators.</li> </ul>		<b>Chemistry - Acids and alkalis</b> Continue and assess.		<b>Physics – Circuits, electricity and magnetism.</b> Continue and assess.	
			<b>Physics – Circuits, electricity and magnetism.</b> <ul style="list-style-type: none"> <li>- Build circuits.</li> <li>- Identify key components.</li> <li>- Investigate static.</li> <li>- Identify magnetic materials.</li> </ul>		<b>Physics – Forces.</b> <ul style="list-style-type: none"> <li>- Identify forces.</li> <li>- Investigate forces.</li> </ul>	
Year 8	<b>Chemistry – Atoms, elements and compounds.</b> <ul style="list-style-type: none"> <li>- Identify elements and compound.</li> <li>- Chemical reactions.</li> <li>- Define key words.</li> </ul> <b>Biology – Structure and function of body systems.</b> <ul style="list-style-type: none"> <li>- Identify organs.</li> <li>- Describe roles.</li> <li>- Identify bones and describe their role.</li> <li>- Importance of exercise in health.</li> </ul>		<b>Biology – Structure and function of body systems.</b> Continue and assess.		<b>Biology – Ecosystem processes and adaptations.</b> <ul style="list-style-type: none"> <li>- Identify predator and prey species.</li> <li>- Aware of the importance of biodiversity.</li> <li>- Interdependence.</li> <li>- Food chains and food webs.</li> <li>- Investigate the habitat around them.</li> </ul>	
Year 9	<b>Chemistry – Separation techniques</b>		<b>Biology – Health and lifestyle.</b>		<b>Pupils could study either topic.</b>	

Inspire	Explore	Nurture	Thrive	Specialist Provision	College
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## Science – Long Term Plan



<ul style="list-style-type: none"> <li>- Investigate separating substances.</li> <li>- Separate solids from liquids.</li> <li>- Separate substances that have dissolved.</li> <li>-</li> </ul> <p><b>Biology – Health and lifestyle.</b></p> <ul style="list-style-type: none"> <li>- Investigate factors linked to health.</li> <li>- Measure heart rate, breathing rate and link to health.</li> <li>- Identify lifestyle choices.</li> <li>- Look at healthy eating.</li> </ul>	<p>Continue and assess.</p> <p><b>Physics – Space.</b></p> <ul style="list-style-type: none"> <li>- Investigate mass and weight.</li> <li>- Look at the wonders of our solar system.</li> <li>- Research planets.</li> <li>- Day and night.</li> <li>- The moon.</li> </ul>	<p><b>Biology – Habitats and sampling techniques.</b></p> <ul style="list-style-type: none"> <li>- Investigate environmental factors within a habitat.</li> <li>- Investigate distribution of organisms within a habitat.</li> </ul> <p><b>Chemistry – Metals and acids.</b></p> <ul style="list-style-type: none"> <li>- React metals and acids.</li> <li>- Make scientific observations.</li> <li>- Work safely in science to minimise the hazard.</li> </ul>
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Key Stage 3	Autumn A	Autumn B	Spring A	Spring B	Summer A	Summer B
<b>Explore Pathway</b>						
Year 7	<p><b>Biology – Cells.</b></p> <ul style="list-style-type: none"> <li>- Study a range of plant and animal cells.</li> <li>- Microscopes.</li> <li>- Identify key components of cells.</li> <li>- Cells, tissues and organs.</li> <li>- Specialised cells.</li> <li>-</li> </ul> <p><b>Chemistry – Acids and alkalis</b></p> <ul style="list-style-type: none"> <li>- hazard symbols</li> <li>- Identification of acids and alkalis - Carryout neutralisation reactions.</li> <li>- Use different indicators.</li> <li>- -Make indicators.</li> </ul>		<p><b>Chemistry – Acids and alkalis</b> Continue and assess.</p> <p><b>Physics – Circuits, electricity and magnetism.</b></p> <ul style="list-style-type: none"> <li>- Build circuits.</li> <li>- Identify key components.</li> <li>- Investigate static.</li> <li>- Identify magnetic materials.</li> </ul>		<p><b>Physics – Circuits, electricity and magnetism.</b> Continue and assess.</p> <p><b>Physics – Forces.</b></p> <ul style="list-style-type: none"> <li>- Identify forces.</li> <li>- Investigate forces.</li> <li>- Record and present data.</li> <li>- Link variables simply.</li> </ul>	

Inspire	Explore	Nurture	Thrive	Specialist Provision	College
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## Science – Long Term Plan



Year 8	<b>Chemistry - Atoms, elements and compounds.</b> <ul style="list-style-type: none"> <li>- Identify elements and compound.</li> <li>- Chemical reactions.</li> <li>- Define key words.</li> </ul> <b>Biology – Structure and function of body systems.</b> <ul style="list-style-type: none"> <li>- Identify organs.</li> <li>- Describe roles.</li> <li>- Identify bones and describe their role.</li> <li>- Importance of exercise in health.</li> </ul>		<b>Biology – Structure and function of body systems.</b> Continue and assess. <b>Physics - Space.</b> <ul style="list-style-type: none"> <li>- Recall facts.</li> <li>- Link ideas.</li> <li>- Investigate mass and weight.</li> <li>- Look at the wonders of our solar system.</li> <li>- Research planets.</li> </ul>		<b>Biology – Ecosystem processes and adaptations.</b> <ul style="list-style-type: none"> <li>- Identify predator and prey species.</li> <li>- Aware of the importance of biodiversity.</li> <li>- Interdependence.</li> <li>- Food chains and food webs.</li> <li>- Investigate the habitat around them.</li> </ul>	
Year 9	<b>Chemistry – Separation techniques</b> <ul style="list-style-type: none"> <li>- Investigate separating substances.</li> <li>- Separate solids from liquids.</li> <li>- Separate substances that have dissolved</li> </ul> <b>Biology - Health and lifestyle.</b> <ul style="list-style-type: none"> <li>- Investigate factors linked to health.</li> <li>- Measure heart rate, breathing rate and link to health.</li> <li>- Identify lifestyle choices.</li> <li>- Look at healthy eating.</li> </ul>		<b>Biology – Health and lifestyle.</b> Continue and assess. <b>Physics – Space.</b> <ul style="list-style-type: none"> <li>- Investigate mass and weight.</li> <li>- Look at the wonders of our solar system.</li> <li>- Research planets.</li> <li>- Day and night.</li> <li>- The moon.</li> </ul>		<b>Pupils could study either topic.</b> <b>Biology – Habitats and sampling techniques.</b> <ul style="list-style-type: none"> <li>- Investigate environmental factors within a habitat.</li> <li>- Investigate distribution of organisms within a habitat.</li> </ul> <b>Chemistry – Metals and acids.</b> <ul style="list-style-type: none"> <li>- React metals and acids.</li> <li>- Make scientific observations.</li> </ul> Work safely in science to minimise the hazard.	
<b>Key Stage 4</b>	<b>Autumn A</b>	<b>Autumn B</b>	<b>Spring A</b>	<b>Spring B</b>	<b>Summer A</b>	<b>Summer B</b>
Inspire						
<b>Btec - Open awards level 1 certificate in Science.</b>						

Inspire	Explore	Nurture	Thrive	Specialist Provision	College
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## Science – Long Term Plan



<b>Year 10</b>	<b>Biology B1 – The human body.</b> <b>Learning outcomes.</b> <ul style="list-style-type: none"> <li>- Know that cells are the basic structural unit of all organisms.</li> </ul> Know the structure and functions of systems in the human body.	<b>Mandatory unit group A</b> <b>Science investigation skills.</b> <b>Learning outcomes.</b> <ul style="list-style-type: none"> <li>- Be able to plan a science investigation.</li> <li>- Be able to work safely.</li> <li>- Be able to carry out a science investigation.</li> <li>- Be able to review a science investigation</li> </ul> <b>Chemistry B2 – Acids, Alkalis and pH.</b> <b>Learning outcomes.</b> Know about acids, alkalis and pH.	<b>Physics B3 – Forces in action</b> <b>Learning outcomes.</b> <ul style="list-style-type: none"> <li>- Know about forces.</li> <li>- Be able to calculate speeds and acceleration speeds.</li> <li>- Know about pressure in solids, liquids and gases.</li> </ul>	<b>Year 10</b>	<b>Biology B1 – The human body.</b> <b>Learning outcomes.</b> <ul style="list-style-type: none"> <li>- Know that cells are the basic structural unit of all organisms.</li> </ul> Know the structure and functions of systems in the human body.	<b>Mandatory unit group A</b> <b>Science investigation skills.</b> <b>Learning outcomes.</b> <ul style="list-style-type: none"> <li>- Be able to plan a science investigation.</li> <li>- Be able to work safely.</li> <li>- Be able to carry out a science investigation.</li> <li>- Be able to review a science investigation</li> </ul> <b>Chemistry B2 – Acids, Alkalis and pH.</b> <b>Learning outcomes.</b> Know about acids, alkalis and pH.
<b>AQA – Entry level certificate in Science</b>						
<b>Year 11</b>	<b>Physics – Component 5 – Energy, forces and the structure of matter.</b> <ul style="list-style-type: none"> <li>- Designing an investigation.</li> <li>- Independence.</li> <li>- Recalling key facts.</li> <li>- Linking ideas.</li> </ul>	<b>Physics – Component 5 – Energy, forces and the structure of matter.</b> Continue the unit.  TDA and ESA assessment administered.  <b>ELC – Intervention</b> TDA assessments from Biology, Chemistry or Physics or complete a unit and an ESA from any science topic not covered before.				

Inspire	Explore	Nurture	Thrive	Specialist Provision	College
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## Science – Long Term Plan



Key Stage 4	Autumn A	Autumn B	Spring A	Spring B	Summer A	Summer B
<b>Explore+ Pathway AQA - Entry level Science</b>						
<b>Year 10</b>	<b>Biology - Component 1 – The human body.</b> <ul style="list-style-type: none"> <li>- Designing an investigation.</li> <li>- Independence.</li> <li>- Recalling key facts.</li> <li>- Linking ideas.</li> </ul>		<b>Biology - Component 1 – The human body.</b> Continue the unit. TDA and ESA assessment administered.		<b>Chemistry - Component 3 – Element, Mixture and compounds.</b> Continue the unit. TDA and ESA assessment administered.	
			<b>Chemistry - Component 3 – Element, Mixture and compounds.</b> <ul style="list-style-type: none"> <li>- Designing an investigation.</li> <li>- Independence.</li> <li>- Recalling key facts.</li> <li>- Linking ideas.</li> </ul>			
<b>Year 11</b>	<b>Physics – Component 5 – Energy, forces and the structure of matter.</b> <ul style="list-style-type: none"> <li>- Designing an investigation.</li> <li>- Independence.</li> <li>- Recalling key facts.</li> <li>- Linking ideas.</li> </ul>		<b>Physics – Component 5 – Energy, forces and the structure of matter.</b> Continue the unit. TDA and ESA assessment administered.			
			<b>ELC – Intervention</b> TDA assessments from Biology, Chemistry or Physics or complete a unit and an ESA from any science topic not covered before.			

Key to Pathways:

Inspire	Explore	Nurture	Thrive	Specialist Provision	College
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## Science – Long Term Plan



Key Stage 4	Autumn A	Autumn B	Spring A	Spring B	Summer A	Summer B
<b>Explore Pathway</b>						
<b>Year 10</b>	<b>BTEC - Level 1 introductory - Vocational studies award (ENTRY 3).</b>					
	<b>Unit ASc7: Investigating variation in plants and animals.</b> <ul style="list-style-type: none"> <li>- Classification keys.</li> <li>- Plant and animal cells.</li> <li>- Using microscopes.</li> <li>- Making cell slides.</li> <li>- Looking at differences and similarities between cells.</li> <li>- Looking at class / school variation.</li> <li>- Present variation data.</li> </ul>					
<b>Year 11</b>	<b>BTEC - Level 1 introductory - Vocational studies award (ENTRY 3).</b>					
	<b>COMPULSARY UNIT.</b> Unit A2: Developing a personal progression plan. <ul style="list-style-type: none"> <li>- Identify an intended progression goal.</li> <li>- Outlines the skills and behaviours needed to meet a personal progression goal.</li> <li>- Produce an outline progression plan to meet the intended progression goal</li> </ul> <b>Plus</b> AQA Unit Award – A chemistry and Physics unit.					

Key Stage 4	Autumn A	Autumn B	Spring A	Spring B	Summer A	Summer B
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Inspire	Explore	Nurture	Thrive	Specialist Provision	College
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## Science – Long Term Plan



### Explore+ Pathway AQA - Entry level Science

<b>Year 10</b>	<b>Biology - Component 1 – The human body.</b> <ul style="list-style-type: none"> <li>- Designing an investigation.</li> <li>- Independence.</li> <li>- Recalling key facts.</li> <li>- Linking ideas.</li> </ul>	<b>Biology - Component 1 – The human body.</b> Continue the unit. TDA and ESA assessment administered. <b>Chemistry - Component 3 – Element, Mixture and compounds.</b> <ul style="list-style-type: none"> <li>- Designing an investigation.</li> <li>- Independence.</li> <li>- Recalling key facts.</li> <li>- Linking ideas.</li> </ul>	<b>Chemistry - Component 3 – Element, Mixture and compounds.</b>  Continue the unit.  TDA and ESA assessment administered.
<b>Year 11</b>	<b>Physics – Component 5 – Energy, forces and the structure of matter.</b> <ul style="list-style-type: none"> <li>- Designing an investigation.</li> <li>- Independence.</li> <li>- Recalling key facts.</li> <li>- Linking ideas.</li> </ul>	<b>Physics – Component 5 – Energy, forces and the structure of matter.</b>  Continue the unit. TDA and ESA assessment administered. <b>ELC – Intervention</b> TDA assessments from Biology, Chemistry or Physics or complete a unit and an ESA from any science topic not covered before.	

Key Stage 3	Autumn A	Autumn B	Spring A	Spring B	Summer A	Summer B
<b>Specialist Provision</b>						
<b>Year 7</b>	<b>Biology</b> - Animals including humans	<b>Chemistry</b> - Everyday materials	<b>Physics</b> - Seasonal changes	<b>Biology</b> - Plants		

Inspire	Explore	Nurture	Thrive	Specialist Provision	College
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## Science – Long Term Plan



<b>Year 8</b>	<b>Physics</b> – Earth and Space	<b>Chemistry</b> - Properties and Changes of Materials Everyday Materials	<b>Physics</b> – Light and sound		<b>Biology</b> – Plants 2.
<b>Year 9</b>	<b>Physics</b> - Electricity	<b>Physics</b> – Sound and hearing	<b>Physics</b> – Forces and magnets	<b>Chemistry</b> - Rocks	<b>Biology</b> – Animals including humans 2.
<b>Key Stage 4</b>	<b>Autumn A</b>	<b>Autumn B</b>	<b>Spring A</b>	<b>Spring B</b>	<b>Summer A</b>
<b>Year 10 and 11.</b>	<p>Students continue to develop their skills through ASDAN Transition Challenge or Working Towards Independence.</p> <p>Students who access science in the main school will follow explore or inspire pathways.</p>				

### Nurture Pathway

<b>KS3 and KS4</b>	The Science curriculum is not taught as a discrete subject within the Nurture pathway. Aspects are taught through BTEC 'Land Based Studies & Animal Care' at KS3&4; Environment / Gardening at KS3; 'Health & Social Care' at KS4; to reflect the ability and the individual needs of the pupils.
	For those students who access their Science timetable within the main school, their Science curriculum follows the Inspire or Explore pathways they are accessing.
	The curriculum will also take account of individual pupils' SaLT and behaviour programmes.

### Thrive Pathway

<b>KS3, KS4</b>	The Thrive Pathway has a bespoke curriculum which focuses on the development of pupils' communication and needs. Aspects of science are explored through Food Skills and Art, in a cross-curricular approach. Please refer to the Thrive Long Term Plan for a full overview of themes covered.
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### Specialist Provision

Inspire	Explore	Nurture	Thrive	Specialist Provision	College
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## Science – Long Term Plan

<b>KS3</b>	Specialist Provision has a bespoke curriculum which focuses on the development of pupils' communication and sensory needs. Please
<b>KS4</b>	refer to the SP Long Term Plan for a full overview of themes covered. For those students who access their Science timetable within the main school, their Science curriculum follows the Inspire or Explore pathways they are accessing.
<b>College Pathway</b>	
<b>KS5</b>	Science is not taught as an explicit subject in KS5. However, aspects of the science curriculum are taught through Hospitality (Heating, Cooling, reversible, irreversible); through Sport & Leisure (Human Body); through Independent Living & PSHCE (Healthy diets)