

Science

Intent

At Welburn, every pupil is given the opportunity to access this exciting and integral subject. Through our curriculum we aim to inspire pupils to observe and question the world around them. Whether it's beneath the Earth's surface, or above us in space, pupils will develop their understanding of the various scientific processes that so heavily shape our lives. Pupils will also use their burgeoning scientific knowledge to develop and deliver scientific experiments. This will encourage students to become scientists themselves!

For pupils working at our 'Semi formal' levels, the Science units are taught using a cross curricular themed approach, through curriculum areas such as 'Understanding the World' and 'My thinking and problem solving'. Pupils work on cross curricular priority areas of learning, including those milestones central to a pupil's EHCP. The units enable pupils to access a wide range of creative and exciting planned activities to extend and build on known interests and motivations. Planning and delivery will focus on all aspects of communication, personal outcomes and engagement through the themes.

For our more 'formal' learners, pupils will access even more complex scientific topics alongside more demanding scientific practical's. This will include the opportunity to complete an Entry Level scientific accreditation in KS4. Pupils will also be encouraged to consider science across the curriculum and recognise the presence of science in all aspects of the timetable. The work will focus on enflaming pupil's interests and providing them with knowledge and skills to support their needs and their journey towards adulthood. Communication and personal/social development remain an integral part of all delivery.

Semi-Formal (cross curricular)			
Primary	KS3	KS4	College
Our curriculum will... Science will be embedded into the Knowledge and Understanding and Expressive Arts areas of learning	Our curriculum will... Science will be embedded into the Knowledge and Understanding and Expressive Arts areas of learning	Our curriculum will... Build upon the learning and the skills developed in previous years through embedding science into	Our curriculum will... Whilst science is not taught on the college timetable, science skills will be embedded via cross curricular links.

<ul style="list-style-type: none"> • Be taught using a themed approach, using a broad range of teacher-led, child-initiated and continuous learning opportunities. • Be based on first-hand practical experiences. • Encourage pupils to use their senses to investigate a range of objects and materials. • Encourage pupils to explore the different features of living things, objects etc. • Encourage pupils to explore similarities, differences, patterns and change. • Encourage pupils to be curious, explore and ask questions, make comments about what they have noticed. • Support pupils' learning by being based on a total communication approach. 	<ul style="list-style-type: none"> • Encourage pupils to use simple scientific language to communicate about what they have found out and communicate their ideas to a range of audiences in a variety of ways. • Enable pupils to experience and observe phenomena, looking more closely at the natural and humanly - constructed world around them, to be curious, explore and ask questions about what they notice. • Develop pupils' understanding of scientific ideas. • Allow pupils to observe simple changes over a period of time e.g. different seasons, plant growth etc. • Enable pupils to use simple scientific language to communicate about what they have found out and communicate their ideas to a range of audiences in a variety of ways. 	<p>Understanding the World area of learning. Consolidate previous knowledge and skills. Transfer these skills. To include:</p> <ul style="list-style-type: none"> • Encourage pupils to use simple scientific language to communicate about what they have found out and communicate their ideas to a range of audiences in a variety of ways. • Enable pupils to experience and observe phenomena, looking more closely at the natural and humanly - constructed world around them, to be curious, explore and ask questions about what they notice. • Develop pupils' understanding of scientific ideas. • Allow pupils to observe simple changes over a period of time e.g. different seasons, plant growth etc. • Enable pupils to use simple scientific language to communicate about what they have found out and communicate their ideas to 	<ul style="list-style-type: none"> • Enable pupils to develop their appreciation and respect for animals through caring for animals on the school farm. • Enable students to gain a greater understanding of scientific processes through practical life skill activities. • Enable students to explore how scientific processes take place in the World around them.
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		a range of audiences in a variety of ways.	
Learning Opportunities including Cultural Capital & Spiritual, Moral, Social and Cultural (SMSC):			
<ul style="list-style-type: none"> • Multi-sensory continuous provision approach • Range of sensory toys and equipment to develop understanding of materials • Regular sessions in the light room • Rebound therapy • Hydrotherapy sessions • Attention Autism • Collapsed curriculum days including events organised by York University • Outdoor learning play opportunities • Access to the farm • Visits to the local area • Access to the school grounds (lake, woodland, river, grassland) 	<ul style="list-style-type: none"> • Multi-sensory continuous provision approach • Range of sensory toys and equipment to develop understanding of materials • Regular sessions in the light room • Rebound therapy • Hydrotherapy sessions • Outdoor learning opportunities • Attention Autism • Collapsed curriculum days including events organised by York University • Access to the farm • Visits to the local area • Opportunity to become a member of the Eco-committee to develop Welburn Hall School as an Eco School • Access to the school grounds (lake, woodland, river, grassland) 	<ul style="list-style-type: none"> • Multi-sensory approach • Provide students with a tangible, real-life application for their scientific knowledge • Sessions in the light room • Rebound therapy • Hydrotherapy sessions • Outdoor learning opportunities • Attention Autism • Collapsed curriculum days including events organised by York University • Access to the farm • Regular learning opportunities in the local community • Access to the food tech facilities • Opportunity to become a member of the Eco-committee to develop Welburn Hall School as an Eco School 	<ul style="list-style-type: none"> • Learning in the local community • Provide students with a tangible, real-life application for their scientific knowledge. • Collapsed curriculum days • School Farm • Access to the school grounds (lake, woodland, river, grassland) • Work experience, which can include volunteering at the Birds of Prey Centre and Helmsley Wall Gardens • Access to the food tech facilities • Opportunity to become a member of the Eco-committee to develop Welburn Hall School as an Eco School

		<ul style="list-style-type: none"> • Access to the school grounds (lake, woodland, river, grassland) 	
<p>The Impact of our Science curriculum will be that pupils:</p>			
<ul style="list-style-type: none"> • Develop their ability to make sense of their physical world and their community. • Experience a range of experiences to increase their knowledge and sense of the world around them – from visiting parks, libraries and museums to meeting important members of society such as police officers, nurses and firefighters. 	<ul style="list-style-type: none"> • Observe, experience, investigate, identify, classify and/or describe a range of living things and their habitats. • Use simple scientific language to communicate what they have found out. • Be curious, explore and ask questions about what they notice. 	<ul style="list-style-type: none"> • Observe, experience, investigate, identify, classify and/or describe a range of living things and their habitats. • Use a wider range of scientific language to communicate what they have found out. • Be curious, explore and ask questions about what they notice. • Make some contribution to planning and evaluation and to recording their findings 	<ul style="list-style-type: none"> • Apply their scientific understanding to a range of work experience and enrichment offers. This will help students to embed their scientific understanding into their everyday lives.

Formal

Primary	KS3	KS4	College
<p>Our curriculum will...</p> <ul style="list-style-type: none"> • Introduce our students to the world of science and inspire them to ask questions about the environment around them. • Build upon students' previous knowledge base and support students of all needs to access this integral and inspiring subject. • Encourage students to ask questions and critically consider the world around them. This will be facilitated by access to our biodiverse grounds, farm facilities, food tech room and a range of scientific equipment. • Enable students to complete with support simple scientific studies and 	<p>Our curriculum will...</p> <ul style="list-style-type: none"> • Develop students' burgeoning scientific understanding and encourage them to inquisitively consider the environment around them. • Enable students to begin to develop cross curricular understanding of how science is observed all around us. This will be facilitated by access to our biodiverse grounds, farm facilities, food tech room and other subjects taught across the curriculum. • Encourage students to record their own findings following scientific experiments. 	<p>Our curriculum will...</p> <ul style="list-style-type: none"> • Build upon the students developing mental models and allow some students to access a science accreditation. • Inspire students to determine their own conclusions, with the support of a range of scientific equipment. • Encourage students to take an active role in collapsed curriculum days for science and become science ambassadors for the school. • Inspire students to observe everyday actions through a scientific lens, including an encouragement to be more environmentally friendly. 	<p>Our curriculum will...</p> <ul style="list-style-type: none"> • Provide students with a tangible, real-life application for their scientific knowledge. • Enable students to take their prior learning and apply their understanding to a range of work experiences and accredited subjects. • Consistently model to students how to relate their activities to previous learning, encouraging the development of mental models as well as cross-curricular learning. • Encourage students to ask questions and critically consider the world around them. This will be facilitated by access to our biodiverse

<p>experiments, for example the impact of increasing an incline on the velocity of a mechanical toy.</p>	<ul style="list-style-type: none"> • Model for students how to interpret their findings and draw simple conclusions. 	<ul style="list-style-type: none"> • Enable students to complete more independently simple scientific research and to record their findings through the use of tables and pictorials. 	<p>grounds, farm facilities, food tech room and a range of scientific equipment.</p>
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Learning Opportunities including Cultural Capital & SMSC:

<p>:</p> <ul style="list-style-type: none"> • Use of KS1 National curriculum content that is relevant to our pupils • Range of sensory toys and equipment to develop understanding of materials, • Collapsed curriculum days including events organised by York University • Access to the school grounds • Access to the farm • Access to the food tech facilities • Visits to the local area • Access to a school weather station 	<ul style="list-style-type: none"> • Use of KS1 and 2 National curriculum content that is relevant to our pupils • Access to more scientific equipment • Collapsed curriculum days including events organised by York University • Access to the school grounds • Access to the farm • Access to the food tech facilities • Visits to the local area • Access to a school weather station • Opportunity to become a member of the Eco-committee to develop Welburn Hall School as an Eco School 	<ul style="list-style-type: none"> • Use of KS1, 2 and 3 National curriculum content that is relevant to our pupils • Opportunity to access the OCR Entry Level Science Award (accredited) • Access to more scientific equipment • Collapsed curriculum days • Access to the school grounds • Access to the farm • Access to the food tech facilities • Visits to the local area, and visits further afield including coastal visits • Access to a school weather station • Opportunity to become a member of the Eco-committee to develop Welburn Hall School as an Eco School 	<p>While science is not explicitly taught in college, students are given many opportunities to enflame and enhance their scientific understanding.</p> <ul style="list-style-type: none"> • York College construction course (accredited) • Animal care (accredited) • Catering (accredited) • Enterprise, involving the manufacturing and selling of goods • Life skills (accredited) • Enrichment, which can include walks in local AONBs and other nature-based activities. • Work experience, which can include volunteering at the Birds of Prey Centre and Helmsley Wall Gardens • Collapsed curriculum days
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			<ul style="list-style-type: none"> • Access to the school grounds • Access to the farm • Access to the food tech facilities • Visits to the local area, and visits further afield including coastal visits • Access to a school weather station • Opportunity to become a member of the Eco-committee to develop Welburn Hall School as an Eco School
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The Impact of our Science curriculum will be that pupils:

<ul style="list-style-type: none"> • Build a strong foundation of scientific understanding, with which to build on throughout their time at Welburn. • Use simple scientific equipment in a specific planned event. • Have a growing awareness of their actions of their environment. • Be inspired to question and query the world around them and explore it through multi-sensory means. 	<ul style="list-style-type: none"> • Observe science in multiple topics and locations, and not just within a science lesson. • Actively engage in science and begin to develop their own scientific method. 	<ul style="list-style-type: none"> • Develop further as scientists by using by using more technical scientific equipment and drawing conclusions from their own studies. • Access an Entry Level science accreditation. 	<ul style="list-style-type: none"> • Apply their scientific understanding to a range of work experience and enrichment offers. This will help students to embed their scientific understanding into their everyday lives.
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