



NUTFIELD CHURCH CE PRIMARY SCHOOL  
SCIENCE, COMPUTING AND DESIGN & TECHNOLOGY CURRICULUM OVERVIEW 2020/2021

EYFS					
COMMUNITY	PEACE	WISDOM	HOPE	DIGNITY	JOY
<p><b>Understanding the World: The World (30-50)</b> - Can talk about some of the things they have observed such as plants, animals, natural and found objects. Talks about why things happen and how things work. Developing an understanding of growth, decay and changes over time.</p> <p><b>Understanding the World: Technology (30-50)</b> - Knows how to operate simple equipment, e.g. turns on CD player and uses remote control. Shows an interest in technological toys Knows that information can be retrieved from computers.</p> <p><b>Expressive Arts and Design: Exploring Media and Materials (30-50)</b> - Uses various construction materials. Beginning to construct, stacking blocks vertically and horizontally, making enclosures and creating spaces. Joins construction pieces together to build and balance. Realises tools can be used for a purpose.</p>	<p><b>Understanding the World: The World (40-60)</b> – Looks closely at similarities, differences, patterns and change.</p> <p><b>Understanding the World: Technology (40-60)</b> - Completes a simple program on a computer. Interacts with age-appropriate computer software.</p> <p><b>Expressive Arts and Design: Exploring Media and Materials (40-60)</b> – Constructs with a purpose in mind, using a variety of resources. Uses simple tools and techniques competently and appropriately. Selects appropriate resources and adapts work where necessary. Selects tools and techniques needed to shape, assemble and join materials they are using.</p>			<p><b>Understanding the World: The World (ELG)</b> – Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur, and talk about changes.</p> <p><b>Understanding the World: Technology (ELG)</b> – Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.</p> <p><b>Expressive Arts and Design: Exploring Media and Materials (ELG)</b> – They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p>	



NUTFIELD CHURCH CE PRIMARY SCHOOL  
SCIENCE, COMPUTING AND DESIGN & TECHNOLOGY CURRICULUM OVERVIEW 2020/2021

Year 1					
Science					
COMMUNITY	PEACE	WISDOM	HOPE	DIGNITY	JOY
Animals including Humans – Humans Seasonal Changes - Autumn	Animals including humans - Animals Seasonal Changes - Winter	Plants	Seasonal changes - Spring	Materials	SUMMER 2 Seasonal Changes - Summer
<b>Are all animals the same?</b>		<b>How does nature change from winter to spring?</b>		<b>Do all materials have the same uses?</b>	
<p><b>Animals inc humans (focus on humans) Identifying, classifying and grouping</b> Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</p> <p><b>Seasonal Changes (Autumn) Observing over time</b> Observe changes across the 4 seasons.</p> <p>Observe and describe weather associated with the seasons and how day length varies.</p>	<p><b>Animals inc humans (animals) Pattern seeking</b> Identify and name a variety of common animals including, fish, amphibians, reptiles, birds and mammals.</p> <p>Identify and name a variety of common animals that are carnivores, herbivores and omnivores.</p> <p>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets).</p> <p><b>Seasonal Changes (Winter) Observing over time</b> Observe changes across the 4 seasons. Observe and describe weather associated with the seasons and how day length varies.</p>	<p><b>Identifying, classifying and grouping</b> Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.</p> <p>Identify and describe the basic structure of a variety of common flowering plants, including trees.</p>	<p><b>Observing over time</b> Observe changes across the 4 seasons.</p> <p>Observe and describe weather associated with the seasons and how day length varies.</p>	<p><b>Materials - Identifying, classifying and grouping</b> Distinguish between an object and the material from which it is made.</p> <p>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.</p> <p>Describe the simple physical properties of a variety of everyday materials.</p> <p>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</p>	<p><b>Seasonal changes (Summer) Observing over time</b> Observe changes across the 4 seasons.</p> <p>Observe and describe weather associated with the seasons and how day length varies.</p>
Computing					
<b>Basic Skill - Learn how to logon, select, use and exit apps. Learn how to shutdown laptops and store away equipment safely.</b>					
<p>Use technology safely and respectfully.</p> <p>Children to use the iPads to draw letters and during phonics. Learn how to logon, select, use and exit apps. Learn how to shutdown</p>		<p>Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p>			



**NUTFIELD CHURCH CE PRIMARY SCHOOL**  
**SCIENCE, COMPUTING AND DESIGN & TECHNOLOGY CURRICULUM OVERVIEW 2020/2021**

laptops and store away equipment safely.		Focus on internet safety (see Online Safety planning)			
<b>Purple Mash Outcomes</b>					
Use technology purposefully to create, organise, store, manipulate and retrieve digital content.  Children to use paint projects (see link below) to draw and create an autumn scene.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content.  Children to use paint projects (see link below) to draw and create a bird image for display.  Use technology purposefully to create, organise, store, manipulate and retrieve digital content.  Children to use paint projects (see link below) to draw and create a winter scene for display.		Use technology purposefully to create, organise, store, manipulate and retrieve digital content.  Children to use paint projects (see link below) to draw and create a spring scene for display.	Use logical reasoning to predict the behaviour of simple programs  Maze explorers - 2 go – children to dip into coding.	Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.  Complete the coding unit in the link below  Use technology purposefully to create, organise, store, manipulate and retrieve digital content.  Children to use paint projects (see link below) to draw and create a summer scene for display.
<b>Purple Mash links for resources</b>					
<a href="https://www.purplemash.com/#app/pap/nature/autumn">https://www.purplemash.com/#app/pap/nature/autumn</a>	<a href="https://www.purplemash.com/#app/pap/animals/bird_instructions">https://www.purplemash.com/#app/pap/animals/bird_instructions</a>  <a href="https://www.purplemash.com/#app/pap/nature/winter">https://www.purplemash.com/#app/pap/nature/winter</a>	<a href="https://www.purplemash.com/#tab/pm-home/science/plants">https://www.purplemash.com/#tab/pm-home/science/plants</a>	<a href="https://www.purplemash.com/#app/pap/nature/spring">https://www.purplemash.com/#app/pap/nature/spring</a>	<a href="https://www.purplemash.com/#app/pap/nature/summer">https://www.purplemash.com/#app/pap/nature/summer</a>  <a href="https://www.purplemash.com/#tab/computing_sow_y1_unit_1-5">https://www.purplemash.com/#tab/computing_sow_y1_unit_1-5</a>	<a href="https://www.purplemash.com/#tab/Teachers/computing_sow/computing_sow_y1/computing_sow_y1_unit_1-7">https://www.purplemash.com/#tab/Teachers/computing_sow/computing_sow_y1/computing_sow_y1_unit_1-7</a>
<b>D&amp;T Outcome</b>					
Build structures, exploring how they can be made stronger, stiffer and more stable.  select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.  Make own instruments out of junk modelling materials.	use the basic principles of a healthy and varied diet to prepare dishes  Understand where food comes from.  Plan and create a series of healthy snacks.			Build structures, exploring how they can be made stronger, stiffer and more stable.  Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.  Using a variety of junk modelling materials, linked to the Science curriculum, children to create robots or animals (or linked to KUW topic). Children to decide on what material is best and why.	



NUTFIELD CHURCH CE PRIMARY SCHOOL  
SCIENCE, COMPUTING AND DESIGN & TECHNOLOGY CURRICULUM OVERVIEW 2020/2021

Year 2									
Science									
COMMUNITY	PEACE	WISDOM	HOPE	DIGNITY	JOY				
Animals Including Humans		Living Things and Their Habitats	Plants	Use of Everyday Materials	Famous Scientists				
What are the basic needs of an animal for survival?		How do animals and plants depend on each other?		How can different materials be manipulated?					
<p><b>Research (secondary sources)</b> Explore and compare the differences between things that are living, dead, and things that have never been alive.</p> <p>Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.</p> <p>Identify and name a variety of plants and animals in their habitats, including micro-habitats.</p> <p>Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.</p>		<p><b>Identifying, classifying and grouping</b> Notice that animals, including humans, have offspring which grow into adults.</p> <p>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p>		<p><b>Observing over time</b> Observe and describe how seeds and bulbs grow into mature plants.</p> <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>		<p><b>Identifying, classifying and grouping.</b> Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.</p> <p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>		<p>Research Elizabeth Garrett Anderson, the first woman doctor.</p> <p>Describe the importance of hygiene to humans in the context of investigating Louis' Pasteur's work on how germs spread.</p> <p>Research about people who have developed new materials in the context of learning about Charles Macintosh.</p> <p>To describe how animals obtain their food from plants and other animals, using the idea of a simple food chain in the context of exploring Rachel Carson's study of the ocean.</p>	



NUTFIELD CHURCH CE PRIMARY SCHOOL  
SCIENCE, COMPUTING AND DESIGN & TECHNOLOGY CURRICULUM OVERVIEW 2020/2021

<b>Computing</b> Basic Skill - Learn how to save and retrieve own work. Learn how to change font style, size and colour.				
Use technology safely and respectfully  Use the internet to research the different animal classes, habitats and food chains.  Internet Search: Use internet search engines to retrieve information.	Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about material on the internet or other online technologies.  Focus on internet safety (see Online Safety planning)			Use technology safely and respectfully. use technology purposefully to create, organise, store, manipulate and retrieve digital content.  To create a PowerPoint on a famous scientist.
<b>Purple Mash Outcomes</b>				
Recognise common uses of information technology beyond school  Create and debug simple programs.  Create a spreadsheet using 2Calculate or 2Count which records things that are living, dead and things that have never been alive around the school environment.		Use technology purposefully to create, organise, store, manipulate and retrieve digital content.		Use logical reasoning to predict the behaviour of simple programs.  Create and debug simple programs.  2Code – children to code a game based on their KUW topic or English book.
<b>Purple Mash links for resources</b>				
<a href="https://www.purplemash.com/#tab/Teachers/computing_sow/computing_sow_y2/computing_sow_y2_unit_2-3">https://www.purplemash.com/#tab/Teachers/computing_sow/computing_sow_y2/computing_sow_y2_unit_2-3</a> <a href="https://www.purplemash.com/#tab/Teachers/computing_sow/computing_sow_y2/computing_sow_y2_unit_2-5">https://www.purplemash.com/#tab/Teachers/computing_sow/computing_sow_y2/computing_sow_y2_unit_2-5</a> <a href="https://www.purplemash.com/#app/tools/2Calculate">https://www.purplemash.com/#app/tools/2Calculate</a>		<a href="https://www.purplemash.com/#tab/Teachers/computing_sow/computing_sow_y2/computing_sow_y2_unit_2-6">https://www.purplemash.com/#tab/Teachers/computing_sow/computing_sow_y2/computing_sow_y2_unit_2-6</a>		<a href="https://www.purplemash.com/#tab/pm-home/science/famous_scientists">https://www.purplemash.com/#tab/pm-home/science/famous_scientists</a>



NUTFIELD CHURCH CE PRIMARY SCHOOL  
SCIENCE, COMPUTING AND DESIGN & TECHNOLOGY CURRICULUM OVERVIEW 2020/2021

<b>D&amp;T Outcome</b>		
<p>Design purposeful, functional, appealing products for themselves and other users based on design criteria.</p> <p>Build structures, exploring how they can be made stronger, stiffer and more stable.</p> <p>Select from and use a range of tools and equipment to perform practical tasks.</p> <p>Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</p> <p>Design a bird feeder / bird box. Children to communicate their ideas through talking and drawing. They will select from and use a range of tools and equipment to perform practical tasks. They will evaluate their ideas and products against design criteria.</p>	<p>Use the basic principles of a healthy and varied diet to prepare dishes.</p> <p>Understand where food comes from.</p> <p>Plan and create a healthy savoury meal so that they are able to feed themselves and others a healthy and varied diet.</p>	<p>Design purposeful, functional, appealing products for themselves and other users based on design criteria.</p> <p>Build structures, exploring how they can be made stronger, stiffer and more stable.</p> <p>Select from and use a range of tools and equipment to perform practical tasks.</p> <p>Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</p> <p>Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.</p> <p>Make own instruments out of different materials.</p>



NUTFIELD CHURCH CE PRIMARY SCHOOL  
SCIENCE, COMPUTING AND DESIGN & TECHNOLOGY CURRICULUM OVERVIEW 2020/2021

Year 3					
Science					
COMMUNITY	PEACE	WISDOM	HOPE	DIGNITY	JOY
Forces and Magnets	Rocks	Light	Plants	Animals including Humans	SUMMER 2
Which materials attract and which repel each other?		Do all plants need light to grow?		Do our bodies need a skeleton?	
<p><b>Pattern seeking research (secondary sources)</b> Compare how things move on different surfaces.</p> <p>Notice that some forces need contact between 2 objects, but magnetic forces can act at a distance.</p> <p>Observe how magnets attract or repel each other and attract some materials and not others.</p> <p>Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials.</p> <p>Describe magnets as having 2 poles.</p> <p>Predict whether 2 magnets will attract or repel each other, depending on which poles are facing.</p>	<p><b>Comparative and fair testing</b></p> <p>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.</p> <p>Describe in simple terms how fossils are formed when things that have lived are trapped within rock.</p> <p>Recognise that soils are made from rocks and organic matter.</p>	<p><b>Comparative and fair testing</b></p> <p>Recognise that they need light in order to see things and that dark is the absence of light.</p> <p>Notice that light is reflected from surfaces.</p> <p>Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.</p> <p>Recognise that shadows are formed when the light from a light source is blocked by a solid object.</p> <p>Find patterns in the way that the size of shadows change.</p>	<p><b>Observing over time</b></p> <p>Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.</p> <p>Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant.</p> <p>Investigate the way in which water is transported within plants.</p> <p>Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p>	<p><b>Identifying, classifying and grouping and Comparative and fair test</b></p> <p>Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat.</p> <p>Identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p>	<p><b>Consolidation and application.</b></p>



NUTFIELD CHURCH CE PRIMARY SCHOOL  
SCIENCE, COMPUTING AND DESIGN & TECHNOLOGY CURRICULUM OVERVIEW 2020/2021

<b>Computing</b>					
Basic skill - Learn how to search for images and use them in own work and typing practise					
Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.	Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.		
Show children how to use google and how to interpret results on google. Texter (online site) to create and display poetry or writing.	Focus on internet safety (see Online Safety planning)	On laptops, use Photostory to create a video slideshow based on KUW/RE topic or of plants growing over time.	Games and animation development using 2Code or Scratch to create a game based on their KUW topic, English book or RE topic.		
<b>Purple Mash Outcomes</b>					
	Create a range of content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.  Use 2Question to compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.			Create a range of content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.  Games and animation development using 2Code or Scratch to create a game based on their KUW topic, English book or RE topic.	
<b>Purple Mash links for resources</b>					





NUTFIELD CHURCH CE PRIMARY SCHOOL  
SCIENCE, COMPUTING AND DESIGN & TECHNOLOGY CURRICULUM OVERVIEW 2020/2021

<a href="https://www.purplemash.com/#tab/pm-home/science/forces">https://www.purplemash.com/#tab/pm-home/science/forces</a>	<a href="https://www.purplemash.com/#tab/pm-home/science/rocks%20and%20soil">https://www.purplemash.com/#tab/pm-home/science/rocks and soil</a>	<a href="https://www.purplemash.com/#tab/pm-home/science/light%20and%20dark">https://www.purplemash.com/#tab/pm-home/science/light and dark</a>	<a href="https://www.purplemash.com/#tab/pm-home/science/plants">https://www.purplemash.com/#tab/pm-home/science/plants</a>	<a href="https://www.purplemash.com/#tab/pm-home/science/food">https://www.purplemash.com/#tab/pm-home/science/food</a>  <a href="https://www.purplemash.com/#tab/pm-home/science/human%20body">https://www.purplemash.com/#tab/pm-home/science/human body</a>	
<b>D&amp;T Outcome</b>					
<p>Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.</p> <p>Select from and use a wider range of materials and components, including construction materials.</p> <p>Generate, develop, model and communicate their ideas through discussion.</p> <p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p> <p>Children to design a simple vehicle (based on their KUW topic or book in English) and make it using wood. They can then test it rolling on different materials.</p>				<p>Understand and apply the principles of a healthy and varied diet.</p> <p>Cook a repertoire of predominantly savoury dishes so that they are able to feed themselves and others a healthy and varied diet.</p> <p>Children to design and cook a range of healthy meals.</p>	



NUTFIELD CHURCH CE PRIMARY SCHOOL  
SCIENCE, COMPUTING AND DESIGN & TECHNOLOGY CURRICULUM OVERVIEW 2020/2021

Year 4					
Science					
COMMUNITY	PEACE	WISDOM	HOPE	DIGNITY	JOY
Sound	States of Matter	Living Things	Animals including Humans	Electricity	SUMMER 2
What conditions are needed for materials to change shape?		Can all living things be classified the same way?		What would life be like without electricity?	
<p><b>Pattern Seeking</b></p> <p>Identify how sounds are made, associating some of them with something vibrating.</p> <p>Recognise that vibrations from sounds travel through a medium to the ear.</p> <p>Find patterns between the pitch of a sound and features of the object that produced it.</p> <p>Find patterns between the volume of a sound and the strength of the vibrations that produced it.</p>	<p><b>Identifying, classifying and Grouping</b></p> <p>Compare and group materials together, according to whether they are solids, liquids or gases.</p> <p>Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C).</p> <p>Identify the part played by evaporation and condensation in the water cycle and associate the</p>	<p><b>Observing over time</b></p> <p>Recognise that living things can be grouped in a variety of ways.</p> <p>Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.</p> <p>Recognise that environments can change and that this can sometimes pose dangers to living things.</p>	<p><b>Research (secondary sources)</b></p> <p>Describe the simple functions of the basic parts of the digestive system in humans.</p> <p>Identify the different types of teeth in humans and their simple functions.</p> <p>Construct and interpret a variety of food chains, identifying producers, predators and prey.</p>	<p><b>Comparative and fair testing</b></p> <p>Identify common appliances that run on electricity.</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</p> <p>Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery.</p> <p>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</p>	<p><b>Consolidation and application</b></p>



NUTFIELD CHURCH CE PRIMARY SCHOOL  
SCIENCE, COMPUTING AND DESIGN & TECHNOLOGY CURRICULUM OVERVIEW 2020/2021

Recognise that sounds get fainter as the distance from the sound source increases.	rate of evaporation with temperature.			Recognise some common conductors and insulators, and associate metals with being good conductors.	
<b>Computing</b>					
Basic Skill - Learn how and when to print from laptops and iPads and typing practise.					
Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.  Use Moviemaker or iPad app to make a video of sound.		Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.  Focus on internet safety (see Online Safety planning).		Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.  Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.  Games and animation development using 2Code, 2DIY or Scratch.  Children to create an electricity based game (maybe linking to Iron Man book in English).	
<b>Purple Mash Outcomes</b>					
	Create a range of content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.  2Animate to create an animation on the water cycle.	Create a range of content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.  Use 2Chart to explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.	Create a range of content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.  Create a food chain using 2Connect.  Publisher on Purple Mash to identify the different types of		



NUTFIELD CHURCH CE PRIMARY SCHOOL  
SCIENCE, COMPUTING AND DESIGN & TECHNOLOGY CURRICULUM OVERVIEW 2020/2021

			teeth in humans and their simple functions (link above).		
<b>Purple Mash links for resources</b>					
<a href="https://www.purplemash.com/#tab/pm-home/science/sound">https://www.purplemash.com/#tab/pm-home/science/sound</a>	<a href="https://www.purplemash.com/#app/tools/2ani">https://www.purplemash.com/#app/tools/2ani</a>	<a href="https://www.purplemash.com/#app/tools/2chart">https://www.purplemash.com/#app/tools/2chart</a>	<a href="https://www.purplemash.com/#app/tools/2Connect">https://www.purplemash.com/#app/tools/2Connect</a> <a href="https://www.purplemash.com/#app/pup/teeth">https://www.purplemash.com/#app/pup/teeth</a>	<a href="https://www.purplemash.com/#tab/pm-home/science/electricity">https://www.purplemash.com/#tab/pm-home/science/electricity</a>	
<b>D&amp;T Outcome</b>					
		Cook a repertoire of predominantly savoury dishes so that they are able to feed themselves and others a healthy and varied diet.		Understand and use electrical systems in their products.  Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.  Iron Man clay masks – linking to Art and English and Science. Use science topic to insert lights as eyes and a buzzer.	



NUTFIELD CHURCH CE PRIMARY SCHOOL  
SCIENCE, COMPUTING AND DESIGN & TECHNOLOGY CURRICULUM OVERVIEW 2020/2021

Year 5					
Science					
COMMUNITY	PEACE	WISDOM	HOPE	DIGNITY	JOY
Living things and their habitats	Animals including humans	Earth and space	Forces	Properties and changes of materials	SUMMER 2
Do all animals have the same Lifecycle?		Is it only forces that keep the Solar System moving?		Are all changes permanent?	
<p><b>Observing over time</b></p> <p>Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</p> <p>Describe the life process of reproduction in some plants and animals.</p>	<p><b>Pattern Seeking</b></p> <p>Describe the changes as humans develop to old age.</p>	<p><b>Research (secondary sources)</b></p> <p>Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.</p> <p>Describe the movement of the Moon relative to the Earth.</p> <p>Describe the Sun, Earth and Moon as approximately spherical bodies.</p> <p>Use the idea of the Earth's rotation to explain day and night, and the apparent movement of the sun across the sky.</p>	<p><b>Comparative and fair testing</b></p> <p>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</p> <p>Identify the effects of air resistance, water resistance and friction, that act between moving surfaces.</p> <p>Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect.</p>	<p><b>Identifying, classifying and grouping</b></p> <p>Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets.</p> <p>Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.</p> <p>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</p> <p>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.</p>	<p><b>Consolidation and application</b></p>



**NUTFIELD CHURCH CE PRIMARY SCHOOL**  
**SCIENCE, COMPUTING AND DESIGN & TECHNOLOGY CURRICULUM OVERVIEW 2020/2021**

<b>Computing</b>					
Basic skill - Use technology to complement presentation of learning.					
	<p>Select, use and combine a variety of software.</p> <p>Children to create a PowerPoint on the changes in humans from birth to old age.</p>	<p>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</p> <p>Focus on internet safety (see Online Safety planning).</p>		<p>Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</p> <p>Use blog to publish work produced in class throughout year.</p>	<p>Select, use and combine a variety of software.</p> <p>Use Publisher to create a magazine page based on KUW/English topic.</p>
<b>Purple Mash Outcomes</b>					
<p>Create a range of content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.</p> <p>Children to create a 2Question to describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</p>		<p>Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.</p> <p>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.</p> <p>2DIY Purple Mash Game – children to create a 3D Game based on space.</p>		<p>Create a range of content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.</p> <p>2Chart – children to create a flowchart based on whether some changes result in the formation of new materials, and that this kind of change is not usually reversible and use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</p>	
<b>Purple Mash links for resources</b>					
<a href="https://www.purplemash.com/#apps/2question">https://www.purplemash.com/#apps/2question</a>	<a href="https://www.purplemash.com/#app/pup/growingandchanging">https://www.purplemash.com/#app/pup/growingandchanging</a> <a href="https://www.purplemash.com/#tab/pm-home/science/changescience">https://www.purplemash.com/#tab/pm-home/science/changescience</a>	<a href="https://www.purplemash.com/#tab/pm-home/science/space">https://www.purplemash.com/#tab/pm-home/science/space</a> <a href="https://www.purplemash.com/#tab/Teachers/computing_sow/computing_sow_y5/computing_sow_y5_5-5">https://www.purplemash.com/#tab/Teachers/computing_sow/computing_sow_y5/computing_sow_y5_5-5</a>	<a href="https://www.purplemash.com/#tab/pm-home/science/forces">https://www.purplemash.com/#tab/pm-home/science/forces</a>	<a href="https://www.purplemash.com/#apps/2chart">https://www.purplemash.com/#apps/2chart</a>	
<b>D&amp;T Outcome</b>					



**NUTFIELD CHURCH CE PRIMARY SCHOOL**  
**SCIENCE, COMPUTING AND DESIGN & TECHNOLOGY CURRICULUM OVERVIEW 2020/2021**

<p>Become competent in a range of cooking techniques [for example, selecting and preparing ingredients; using utensils and electrical equipment; applying heat in different ways; using awareness of taste, texture and smell to decide how to season dishes and combine ingredients; adapting and using their own recipes].</p> <p>Cook a repertoire of predominantly savoury dishes so that they are able to feed themselves and others a healthy and varied diet.</p>	<p>Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.</p> <p>Mars Rovers/Moon Buggy.</p>	<p>Understand how key events and individuals in design and technology have helped shape the world.</p> <p>Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups</p> <p>Dyson project.</p> <p>Science link with St Bedes.</p>
--	--	--

<b>Year 6</b>					
<b>Science</b>					
<b>COMMUNITY</b>	<b>PEACE</b>	<b>WISDOM</b>	<b>HOPE</b>	<b>DIGNITY</b>	<b>JOY</b>
<b>Living Things</b>	<b>Evolution</b>	<b>Light</b>	<b>Electricity</b>	<b>Animals including Humans</b>	
<b>Have all Living Things evolved at the same rate?</b>		<b>Do you always have to have light to have electricity?</b>		<b>What is the impact of diet on human survival?</b>	
<p><b>Identifying, classifying and grouping</b> Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals.</p> <p>Give reasons for classifying plants and animals based on specific characteristics.</p>	<p><b>Observing over time</b> Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</p> <p>Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.</p> <p>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p>	<p><b>Comparative and fair testing</b> Recognise that light appears to travel in straight lines.</p> <p>Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye.</p> <p>Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes.</p> <p>Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</p>	<p><b>Pattern seeking</b> Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.</p> <p>Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.</p> <p>Use recognised symbols when representing a simple circuit in a diagram.</p>	<p><b>Research (secondary sources)</b> Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.</p> <p>Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.</p> <p>Describe the ways in which nutrients and water are transported within animals, including humans.</p>	
<b>Computing</b>					
Basic skill - Make informed decision as to which hardware/software to use for desired outcome.					
	Create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour;	Create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating	Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.



**NUTFIELD CHURCH CE PRIMARY SCHOOL**  
**SCIENCE, COMPUTING AND DESIGN & TECHNOLOGY CURRICULUM OVERVIEW 2020/2021**

	and presenting data and information.  Write and publish blog of residential trip, include photos and video clips. Use MovieMaker to create a video of residential trip – using pictures and music.	ways to report concerns about content and contact.  Use Excel to record data collection, use formulae, create graphs.	identify a range of ways to report concerns about content and contact.  Keeping safe online.	and presenting data and information.  Students' own choice of Multimedia / Coding Project.	Students' own choice of Multimedia / Coding Project.
<b>Purple Mash Outcomes</b>					
Create a range of content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.  2Connect to describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals.		Create a range of content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.  Publish an article about how light travels in straight lines.		Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.  Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.  2Code – children to code a game or playable app using 2Code or 2DIY 3D2.	
<b>Purple Mash links for resources</b>					
<a href="https://www.purplemash.com/#app/tools/2Connect">https://www.purplemash.com/#app/tools/2Connect</a>		<a href="https://www.purplemash.com/#tab/pm-home/science/light_and_dark">https://www.purplemash.com/#tab/pm-home/science/light and dark</a> <a href="https://www.purplemash.com/#app/pup/lightandmirrors">https://www.purplemash.com/#app/pup/lightandmirrors</a>	<a href="https://www.purplemash.com/#tab/pm-home/science/electricity">https://www.purplemash.com/#tab/pm-home/science/electricity</a>	<a href="https://www.purplemash.com/#tab/pm-home/computing/2diy3d2">https://www.purplemash.com/#tab/pm-home/computing/2diy3d2</a> <a href="https://www.purplemash.com/#tab/pm-home/computing/2code_lessons">https://www.purplemash.com/#tab/pm-home/computing/2code lessons</a>  <a href="https://www.purplemash.com/#tab/pm-home/science/human_body">https://www.purplemash.com/#tab/pm-home/science/human body</a>	
<b>D&amp;T Outcome</b>					
Become competent in a range of cooking techniques [for example, selecting and preparing ingredients; using utensils and electrical equipment; applying heat in different ways; using awareness of taste, texture and smell to decide how to season dishes and combine ingredients; adapting and using their own recipes].  Understand the source, seasonality and characteristics of a broad range of ingredients.  Food and designing a healthy and balanced diet.		Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.  Understand and use electrical systems in their products.  Select from and use a wider range of tools and equipment to perform practical tasks accurately.  A game using circuits, lights, buzzers etc.		Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.  Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.  Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.  Enterprise project.	





NUTFIELD CHURCH CE PRIMARY SCHOOL  
SCIENCE, COMPUTING AND DESIGN & TECHNOLOGY CURRICULUM OVERVIEW 2020/2021

---