

Design and technology long-term plan

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Sunnyhurst Cycle A	Construction Can I design and make my own toy?		Food Where does our food come from?		Textiles Can I design and make my own drawer scenter?	
	<p>Key Coverage</p> <p>Design purposeful, functional, appealing products for themselves and other users</p> <p>I can cut and Join appropriately for different materials and situations e.g. glue, tape.</p> <p>Use a range of materials to create models e.g. tubes, dowel, cotton reels. Roll paper to create tubes.</p> <p>Cut dowel or other material using hacksaw and bench hook.</p> <p>Mark out materials to be cut using a template</p> <p>Explore and evaluate a range of different products</p> <p>Evaluate own ideas and products against design criteria</p>		<p>Key Coverage</p> <p>Develop a food vocabulary using taste, smell, texture and feel.</p> <p>Group familiar food products e.g. fruit and vegetables. Explain where food comes from.</p> <p>Cut, peel, grate, chop a range of ingredients</p> <p>Work safely and hygienically.</p> <p>Understand the need for a variety of foods in a diet</p> <p>Use the basic principles of a healthy and varied diet to prepare dishes</p> <p>Measure and weigh food items, non-standard measures e.g. spoons, cups</p>		<p>Key Coverage</p> <p>Cut out shapes which have been created by drawing round a template onto the fabric.</p> <p>Join fabrics by using e.g. running stitch, glue, staples, over sewing, tape.</p> <p>Decorate fabrics with attached items e.g. buttons, beads, sequins, braids, ribbons.</p> <p>Colour fabrics using a range of techniques e.g. fabric paints, printing, painting.</p> <p>Select from and use a wide range of materials according to their characteristics</p>	
Wider Curriculum Link:	<p>History – Are iPads more fun than your grandparent’s toys?</p>		<p>History- What does an explorer find? English – Handa’s Surprise Geography- Would you prefer to live in Kenya or England?</p>		<p>Art – The work of Jasper Johns Science – Which plants and animals might we find in our garden?</p>	
Outcome:	<p>Design and make a toy</p>		<p>Design and make a healthy meal – fruit salad / fruit kebabs</p>		<p>Create a felt animal or flower. Stuffed with scented petals from the garden</p>	

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Sunnyhurst Cycle B	Paper skills What might you find in the woods?	Mechanism Can you make an animal move?	Food What can we eat beside the seaside?
	<p>Key Coverage:</p> <p>Roll paper to make tubes</p> <p>Pleat paper</p> <p>Fold and pleat to create springs</p> <p>Tear paper</p> <p>Coil paper</p> <p>Fringe with scissors</p> <p>Cut along lines, straight and curved.</p> <p>Use hole punch</p> <p>Snip and spread to create a firm base</p> <p>Create a box corner</p> <p>Create a simple pop up</p>	<p>Key Coverage</p> <p>Join appropriately for different materials and situations e.g. glue, tape.</p> <p>Mark out materials to be cut using a template.</p> <p>Fold, tear and cut paper and card.</p> <p>Cut along lines, straight and curved.</p> <p>Use a hole punch.</p> <p>Insert paper fasteners for card.</p> <p>Experiment with levers and sliders to find different ways of making things move in a 2D plane.</p>	<p>Key Coverage</p> <p>Develop a food vocabulary using taste, smell, texture and feel.</p> <p>Group familiar food products e.g. fruit and vegetables.</p> <p>Explain where food comes from.</p> <p>Cut, peel, grate, chop a range of ingredients Work safely and hygienically.</p> <p>Understand the need for a variety of foods in a diet.</p> <p>Measure and weigh food items, non-standard measures e.g. spoons, cups.</p> <p>Evaluate and explore packaging ideas to store and carry their packed lunches based on knowledge of materials learned in science.</p>
Wider Curriculum Link:	Science – Seasonal Changes	Science – Why would a dinosaur not make a good pet?	Science- Can a spoon be made of paper? Geography- Why do we like to be beside the seaside?
Outcome:	Design and make a miniature autumn woodland	Make an animal with moving parts	Design and make a healthy packed lunch for a school trip to Blackpool including investigating packaging to carry it

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Anglezarke Cycle A	Mechanisms Could we have stopped the Great Fire of London?				Textiles Can we design clothing for a range of audiences?	
	<p>Key Coverage</p> <p>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p> <p>Join appropriately for different materials and situations e.g. glue, tape.</p> <p>Try out different axle fixings and their strengths and weaknesses.</p> <p>Make vehicles with construction kits which contain free running wheels.</p> <p>Use a range of materials to create models with wheels and axles e.g. tubes, dowel, cotton reels.</p> <p>Cut dowel using a hacksaw and bench hook.</p> <p>Attach wheels to a chassis using an axel.</p> <p>Mark out materials to be cut using a template.</p> <p>Understand how key events and individuals in design and technology have helped shape the world</p>				<p>Key Coverage:</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 group</p> <p>Develop vocabulary for tools materials and their properties.</p> <p>Understand seam allowance.</p> <p>Join fabrics using running stitch, over sewing, blanket stitch.</p> <p>Prototype a product using J cloths. Use prototype to make pattern.</p> <p>Explore strengthening and stiffening of fabrics.</p> <p>Explore fastenings (inventors?) and recreate some.</p> <p>Sew on buttons and make loops.</p> <p>Use appropriate decoration techniques.</p> <p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p>	
Wider Curriculum Link:	History- The Great Fire of London				Art and Design – Poonac	
Outcome:	wheels and axles Design and make a vehicle				Decorated T shirt applique linked to diversity theme based on art and design study on Poonac	

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Anglezarke Cycle B	Construction How did the Ancient Egyptians build the pyramids?	Food Are takeaways always unhealthy?	Structures Can we make a boat like the Anglo Saxons?
	<p>Key Coverage</p> <p>Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</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>Develop vocabulary related to the project.</p> <p>Use mechanical systems such as gears, pulleys, levers and linkages.</p> <p>Use lolly sticks/card to make levers and linkages.</p> <p>Use linkages to make movement larger or more varied</p> <p>Understand how key events and individuals in design and technology have helped shape the world</p>	<p>Key Coverage</p> <p>Understand and apply the principles of a healthy and varied diet</p> <p>Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</p> <p>Develop sensory vocabulary/knowledge using, smell, taste, texture and feel.</p> <p>Analyse the taste, texture, smell and appearance of a range of foods (predominantly savoury).</p> <p>Follow instructions/recipes.</p> <p>Join and combine a range of ingredients. Explore seasonality of vegetables and fruit.</p> <p>Find out which fruit and vegetables are grown in countries/continents studied in Geography.</p> <p>Understand seasonality</p> <p>Develop understanding of how meat/fish are reared/caught.</p>	<p>Key Coverage:</p> <p>Explore how to make structures stronger.</p> <p>Investigate different techniques for stiffening a variety of materials.</p> <p>Test different methods of enabling structures to remain stable.</p> <p>Join appropriately for different materials and situations e.g. glue, tape.</p> <p>Mark out materials to be cut using a template.</p> <p>Use a glue gun with close supervision.</p>
Wider Curriculum Link:	History- Ancient Egypt	Geography – What hemisphere do we live in?	History- Why did the Anglo Saxons and Vikings Fight?
Outcome:	Use mechanical systems such as gears, pulleys, levers and linkages to design a lever / pulley system to help the Ancient Egyptians build a pyramid and lower a sarcophagus in to a tomb	Anglezarke Takeaway! Design and make healthy pizzas and packaging to make and order for the school	Design, make and evaluate an Anglo-Saxon sailing boat linked to Sutton Hoo

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Roddlesworth	Mechanical and Electrical Systems and ICT How can computers help things move?		Structures How did the Ancient Greeks make the temples so strong?		Cooking and nutrition How can eating keep you healthy?	
Cycle A						
	<p>Key Coverage:</p> <p>Develop a technical vocabulary appropriate to the project.</p> <p>Use mechanical systems such as cams, pulleys and gears.</p> <p>Use electrical systems such as motors.</p> <p>Program, monitor and control using ICT.</p> <p>Apply their understanding of computing to program, monitor and control their products.</p>		<p>Key Coverage</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>Investigate and analyse a range of existing products</p> <p>Use the correct terminology for tools materials and processes.</p> <p>Use a bradawl to mark hole positions.</p> <p>Use hand drill to drill tight and loose fit holes.</p> <p>Cut strip wood, dowel, square section wood accurately to 1mm.</p> <p>Join materials using appropriate methods.</p> <p>Build frameworks to support mechanisms.</p> <p>Stiffen and reinforce complex structures.</p>		<p>Key Coverage</p> <p>Prepare food products considering the properties of ingredients and sensory characteristics.</p> <p>Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed</p> <p>Weigh and measure using scales.</p> <p>Select and prepare foods for a particular purpose.</p> <p>Work safely and hygienically.</p> <p>Show awareness of a healthy and varied diet</p> <p>Use a range of cooking techniques.</p> <p>Know where and how ingredients are grown and processed.</p> <p>Consider influence of chefs e.g. Jamie Oliver and school meals, Hugh Fearnley-Whittingstall and sustainable fishing etc.</p>	
Wider Curriculum Link:	ICT: Programming and Coding		History- What if you lived in Ancient Greece?		Science- What if your heart stopped?	
Outcome:	Designing and making a pully system using electronics		Design and create a model of Greek temple		Design, create and cost a healthy savoury dish for a family of four	

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Roddlesworth	Cooking and nutrition Were the 'hunter gatherers' sustainable?	Textiles Can I design and make a gadget case?	Structures Does water always flow along the ground?
Cycle B			
	<p>Key Coverage:</p> <p>Prepare food products taking into account the properties of ingredients and sensory characteristics.</p> <p>Weigh and measure using scales.</p> <p>Select and prepare foods for a particular purpose.</p> <p>Work safely and hygienically.</p> <p>Show awareness of a healthy diet (using the eatwell plate).</p> <p>Use a range of cooking techniques.</p> <p>Know where and how ingredients are grown and processed.</p> <p>Consider influence of chefs e.g. Jamie Oliver and school meals, Hugh Fearnley-Whittingstall and sustainable fishing etc.</p>	<p>Key Coverage:</p> <p>Use the correct vocabulary appropriate to the project. Create 3D products using patterns pieces and seam allowance.</p> <p>Understand pattern layout.</p> <p>Decorate textiles appropriately (often before joining components).</p> <p>Pin and tack fabric pieces together.</p> <p>Join fabrics using over sewing, back stitch, blanket stitch or machine stitching (closer supervision).</p> <p>Combine fabrics to create more useful properties. Make quality products.</p>	<p>Key Coverage:</p> <p>Use the correct terminology for tools materials and processes.</p> <p>Use bradawl to mark hole positions.</p> <p>Use hand drill to drill tight and loose fit holes.</p> <p>Cut strip wood, dowel, square section wood accurately to 1mm.</p> <p>Join materials using appropriate methods.</p> <p>Build frameworks to support mechanisms. Stiffen and reinforce complex structures.</p>
Wider Curriculum Link:	<p>History- From Stone Age to the end of the Roman Occupation</p> <p>Geography- What if there were no rainforests? - link to Amazon and other river biomes</p>	Art and Design – Andy Warhol	History- what if the Romans had never invaded Britain?
Outcome:	Making Fish cakes- investigate sustainable fishing	Design, Make and Evaluate a Laptop, ipad, mobile phone sleeve	Making a Roman Aqueduct/viaduct models including a prototype

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Roddlesworth	Cooking and nutrition What might they have eaten in WW2?				Structures Can you frame it?	
Cycle C	<p>Key Coverage:</p> <p>Develop sensory vocabulary/knowledge using, smell, taste, texture and feel.</p> <p>Analyse the taste, texture, smell and appearance of a range of foods (predominantly savoury).</p> <p>Follow instructions/recipes.</p> <p>Make healthy eating choices – use the <i>Eatwell plate</i></p> <p>Join and combine a range of ingredients.</p> <p>Explore seasonality of vegetables and fruit.</p> <p>Find out which fruit and vegetables are grown in countries/continents studied in Geography.</p> <p>Develop understanding of how meat/fish are reared/caught.</p>				<p>Key Coverage:</p> <p>Use the correct terminology for tools materials and processes.</p> <p>Use bradawl to mark hole positions.</p> <p>Use hand drill to drill tight and loose fit holes.</p> <p>Cut strip wood, dowel, square section wood accurately to 1mm.</p> <p>Join materials using appropriate methods.</p> <p>Build frameworks to support mechanisms.</p> <p>Stiffen and reinforce complex structures.</p>	
Wider Curriculum Link:	History- How could Hitler have convinced a nation like Germany to follow him to war				Link back to Sculpture unit in Spring Term – Alexander Calder Art – Paul Nash – Painting	
Outcome:	Designing and making WW2 Ration food				Creating a picture frame	