



Design and Technology Curriculum Map

John Clifford School

Autumn 1

FS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>All about me</p> <p>Healthy eating, how the body works</p> <p>ELG 4, 5, 6, 11, 12, 16, 17</p>	<p><u>What do grown-ups do?</u></p> <p>Construction:</p> <ul style="list-style-type: none"> • Discuss ideas for design using appropriate vocabulary • Discuss and evaluate properties of materials • Build using construction kits (Lego, Knex etc) 	<p><u>How different is Nottingham?</u></p> <p>Construction: Making our own landmark – bridge</p> <ul style="list-style-type: none"> • Discuss ideas for design using appropriate vocabulary • Discuss and evaluate properties of materials • Build using construction kits (Lego, Knex etc) 	<p><u>What makes me unique?</u></p> <p>Construction: Moving Mouth</p> <ul style="list-style-type: none"> • Apply their understanding of how to strengthen, stiffen and reinforce more complex structures • Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] 			<p><u>Who do we think we are?</u></p> <p>Construction: design and make a (Victorian) toy using cams and moving parts</p> <ul style="list-style-type: none"> • Discuss, draw and write ideas for design using appropriate vocabulary • Evaluate designs in discussion and writing • Build using a variety of materials, choosing the material for specific reasons • Use templates and create own templates • Measure accurately in cm and mm • Cut, sand and drill pieces of wood under supervision • Create moving parts and

						joints including levers and cams <ul style="list-style-type: none"> • Use hot glue gun under supervision
People of interest linked to each unit:						
		Isambard Kingdom Brunel – Victorian engineer				Watson Fothergill – Victorian architect Josiah Wedgwood (Staffordshire pottery entrepreneur and designer, slavery abolitionist)
Vocabulary to be taught:						
Food, health, taste, cook, mix, bake, stir, cut, sugar, flour, clean	Paper, card, cut, fold, scissors, glue, sellotape, masking tape, draw, trace, template, pattern, design, stable/unstable, support, functional, practical, aesthetic	Paper, card, cut, fold, scissors, glue, sellotape, masking tape, draw, trace, template, pattern, design, stable/unstable, support, functional, practical, aesthetic	Paper, card, cut, fold, scissors, glue, sellotape, masking tape, draw, trace, template, pattern, design, stable/unstable, support, functional, practical, aesthetic			Cam, axle, slide, follower, lever, pulley, gear, mechanism, functional, practical, aesthetic
Topic links to:						
All ELGs	PSHE – jobs and responsibilities	Geography – local environment Maths – weights and measures	Sci – teeth and eating; human body; senses			History/Geography - the British Empire
Texts that link to the topic:						
	When I Grow Up – Tim Minchin	Bridges – non-fiction books	Teeth and eating non-fiction books			

Autumn 2

FS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p><u>Celebrations</u></p> <p>Why do people have parties?</p> <p>Baking cakes – changing materials</p> <p>ELG 4, 5, 6, 11, 12, 16, 17</p>			<p><u>Would you survive the Stone Age?</u></p> <p>Construction/ Textiles: Stone Age Puppets</p> <ul style="list-style-type: none"> • Discuss, draw and write ideas for design using appropriate vocabulary • Evaluate designs in discussion and writing • Build using paper and card • Cut paper and card accurately using scissors • Create moving parts and joints using paper and card • Measure accurately in cm • Cut and sand wood under supervision • Use templates and create own templates • Cut out shapes using a template • Create a simple pattern • Join fabrics using different sewing stitches • Work safely with scissors and needles • Decorate fabrics 	<p><u>Construction: Light-Up Greeting Cards</u></p> <ul style="list-style-type: none"> • Discuss, draw and write ideas for design using appropriate vocabulary • Evaluate designs in discussion and writing • Build using paper and card • Cut paper and card accurately using scissors • Create moving parts and joints using paper and card • Use electrical components as part of a model • Use hot glue gun under supervision 	<p><u>Is life in space the future?</u></p> <p>Construction: designing a home for Mars</p> <ul style="list-style-type: none"> • Discuss, draw and write ideas for design using appropriate vocabulary • Evaluate designs in discussion and writing • Build using a variety of materials, choosing the material for specific reasons • Use templates and create own templates • Measure accurately in cm and mm • Use hot glue gun under supervision 	

People of interest linked to each unit:

Nadia Hussein (Bake Off winner and author/presenter)				Nikola Tesla/ Thomas Edison (electrical innovators)	Mary Jackson (mathematician and aeronautical designer, NASA – see <i>Hidden Figures</i>)	
Vocabulary to be taught:						
Food, health, taste, cook, mix, bake, stir, cut, sugar, flour, clean			Wood, timber, balsa wood, pine wood, dowel, saw, bench hook, coping saw, hack saw, sand/glasspaper, sanding block Cut, sew, needle, thread, running stitch, over stitch, wool, cross stitch fabric, button, fastening, Velcro	Wire, circuit, bulb, switch, electrical, battery, crocodile clip, connection, current, insulator, conductor	trace, template, pattern, design, stable/ unstable, support, functional, practical, aesthetic	
Topic links to:						
All ELGs			History – stone age Art – textiles Science - materials	Science - electricity	Science - Earth and space	
Texts that link to the topic:						
Celebrations – non-fiction books			Stone Age Boy – S. Kitamura	Thomas Edison – Mary Boone	Space non-fiction books War of the Worlds – HG Wells	

Spring 1

FS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p><u>Under the sea</u></p> <p>Floating and Sinking Building a boat Waterproof materials</p> <p>ELG 4, 5, 6, 11, 12, 16, 17</p>	<p><u>Where does my food come from?</u></p> <p>Food technology</p> <ul style="list-style-type: none"> • Work safely and hygienically • Cut, peel, grate, chop ingredients • Understand a balanced diet • Measure food items • Understand where food comes from 	<p><u>Why can't plants grow in space?</u></p> <p>Construction: Astro garden (design and make a structure that allows plants to grow in space).</p> <ul style="list-style-type: none"> • Discuss and draw ideas for design using appropriate vocabulary • Discuss and evaluate properties of materials • Build using paper and card • Cut paper and card accurately using scissors • Use templates 		<p><u>Volcanoes- escape from Pompeii</u></p> <p>Construction: working volcano model</p> <ul style="list-style-type: none"> • Discuss, draw and write ideas for design using appropriate vocabulary • Evaluate designs in discussion and writing • Build using paper and card • Measure accurately in cm • Cut and sand wood under supervision • Use templates and create own templates • Use hot glue gun under supervision 	<p><u>Who were the Anglo-Saxons and Vikings?</u></p> <p><u>Construction: Viking longship with moving parts</u></p> <ul style="list-style-type: none"> • Discuss, draw and write ideas for design using appropriate vocabulary • Evaluate designs in discussion and writing • Build using a variety of materials, choosing the material for specific reasons • Use templates and create own templates • Measure accurately in cm and mm • Cut, sand and drill pieces of wood under supervision • Create moving parts and joints including levers and cams 	
People of interest linked to each unit:						
		<p>Tim Peake (astronaut; carried out experiments on ISS)</p>		<p>Sextus Julius Frontinus (40-103 AD)(prominent Roman engineer and general)</p>	<p>Alfred the Great (founder of the first English navy)</p>	

		Neil Armstrong (astronaut; 1st man on the moon)				
Vocabulary to be taught:						
Build, draw, cut, design, attach, stick, materials, feel, create, scissors, evaluate, check, measure, count, improve/ get better, Think, floor, sink, water	hygiene, chop, slice, grate, cook, microwave			Wood, timber, balsa wood, pine wood, dowel, saw, bench hook, coping saw, hack saw, sand/glasspaper, sanding block	Wood, timber, balsa wood, pine wood, dowel, saw, bench hook, coping saw, hack saw, sand/glasspaper, sanding block	
Topic links to:						
All ELGs	Sci/ PSHE – food and nutrition; healthy diet Maths - measures	Sci / Geog– habitats and environments; Space		History – Romans Geography – Volcanoes and earthquakes Sci - changing materials	History – Anglo Saxons and Vikings English - Beowulf	
Texts that link to the topic:						
	Handa's Surprise Eat Your Peas! How Did This Get In My Lunchbox?	The Way Back Home – Oliver Jeffers Non-fiction books on Space		Letters of the Younger Pliny (eyewitness description of eruption of Vesuvius)	Beowulf Anglo-Saxon & Viking non-fiction books	

Spring 2

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<p>Traditional Tales</p> <p>Building houses, windmills etc. using different materials</p> <p>ELG 4, 5, 6, 11, 12, 16, 17</p>	<p><u>How did the Great Fire of London start?</u></p> <p>Construction: design and create a model house for 1666</p> <ul style="list-style-type: none"> • Discuss and draw ideas for design using appropriate vocabulary • Discuss and evaluate properties of materials • Build using paper and card • Cut paper and card accurately using scissors • Use templates • Create moving parts and joints using paper and card 					<p><u>What can we learn from others?</u></p> <p>Textiles: linked to Islamic art and tessellation to create a tessellated fabric sampler</p> <ul style="list-style-type: none"> • Create a prototype and patterns • Join fabrics using different sewing stitches • Work safely with scissors and needles • Decorate fabrics • Use fastenings
People of interest linked to each unit:						
	Samuel Pepys (diarist and eyewitness to Great Fire; also clerk to the Royal Navy and gave advice on fighting the fire)					Al-Battani (859-929) (mathematician) Mohammed ibn Yusef Nasr (founder of the Nasrid dynasty and builder of the Alhambra in Granada)
Vocabulary to be taught:						
Build, draw, cut, design, attach, stick, materials, feel, create, scissors, evaluate, check, measure, count, improve/ get better, Think, strong, weak	Paper, card, cut, fold, scissors, glue, sellotape, masking tape, draw, trace, template, pattern, design, stable/ unstable, support					Tessellation, geometry/ geometric, running stitch, over stitch, wool, cross stitch fabric, button, fastening, Velcro

Topic links to:

All ELGs	History Geography – capital cities PSHE – fire safety					History – early Islamic civilisation Maths – tessellation/shape
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Texts that link to the topic:

Three Little Pigs	Great Fire of London – Emma Adams					The History Detective Investigates: Early Islamic Civilisations by Claudia Martin Daily Life in the Islamic Golden Age by Don Nardo Islamic Art and Culture – Nicola Barber
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Summer 1

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<p><u>What lives in the garden?</u></p> <p>Measuring plants</p> <p>ELG 4, 5, 6, 11, 12, 16, 17</p>		<p><u>Mini Beasts</u></p> <p>Textiles: making wings</p> <ul style="list-style-type: none"> Cut out shapes using a template Join fabrics using glue/ sewing/ staples/ tape Work safely with scissors and needles Decorate fabrics 	<p>Food technology</p> <ul style="list-style-type: none"> Work safely and hygienically Join and combine a range of ingredients Understand a balanced diet (create a savoury dish) Measure and weigh food items Follow instructions 	<p>Textiles – fabric mural linked to VE day</p> <ul style="list-style-type: none"> Cut out shapes using a template Create a simple pattern Join fabrics using different sewing stitches Work safely with scissors and needles Decorate fabrics 		
People of interest linked to each unit:						
			Jamie Oliver (nutrition innovations in school catering; celebrity chef; restaurateur offering opportunities to young people)	Lucienne Day (leading textiles designer 1917-2010)		
Vocabulary to be taught:						
Tall, short, long, big, taller/ shorter, measure, ruler		Cloth, fabric, textile, felt, cross stitch fabric Cut, sew, needle, thread, running stitch, over stitch	Food groups, nutrition, healthy diet, carbohydrate, fat, sugar, protein, fruit, vegetables, meat, fish	Template, pattern, running stitch, over stitch, wool, cross stitch fabric, button, fastening, Velcro		
Topic links to:						
All ELGs		Art – textiles Sci – minibeasts; evolution and adaptation (Y6)	PSHE – health and nutrition	History – WW2/ VE Day		
Texts that link to the topic:						

		Diary of a Fly – Doreen Cronin Non-fiction books about minibeasts	Non-fiction books about food/ nutrition	Non-fiction books about life in WW2/ textiles		
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Summer 2

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<p><u>Up, up and away</u></p> <p>Creating a hot air balloon</p> <p>ELG 4, 5, 6, 11, 12, 16, 17</p>		<p><u>Why do we like to be beside the seaside?</u></p> <p>Food technology: making a seaside lunch</p> <ul style="list-style-type: none"> • Work safely and hygienically • Cut, peel, grate, chop ingredients • Understand a balanced diet • Measure food items • Understand where food comes from 			<p>Food technology: making laced-bread loaf for use with a honey-based meal:</p> <ul style="list-style-type: none"> • Select and prepare foods for a particular purpose • Work safely and hygienically • Cut and shape ingredients using appropriate tools and equipment • Join and combine food ingredients appropriately • Decorate appropriately • Understand a balanced diet (create a savoury dish) • Measure and weigh food items using correct units and equipment • Understand seasonality 	<p>Construction: Computer-assisted design and laser-cutting</p> <p>Design and making of laser-cut coasters using CAD software – Inkscape Using Chilwell School facilities for production</p> <p>Sale of coasters at summer fair for Pound Project</p> <ul style="list-style-type: none"> • Discuss, draw and write ideas for design using appropriate vocabulary • Evaluate designs in discussion and writing • Build using a variety of materials, choosing the material for specific reasons • Use templates and create own templates • Measure accurately in cm and mm • Use CAD software to design OR an ICT program to control models

People of interest linked to each unit:

					Madhur Jaffrey (actress and cooking author/presenter credited with introducing Indian cooking to British households)	James Dyson (modern designer)/ entrepreneur)
Vocabulary to be taught:						
Build, draw, cut, design, attach, stick, materials, feel, create, scissors, evaluate, check, measure, count, improve/ get better, think		Food, health, taste, cook, mix, bake, stir, cut, sugar, flour, hygiene, chop, slice, grate, cook, microwave, food groups, nutrition, healthy diet, carbohydrate, fat, sugar, protein, fruit, vegetables, meat, fish			Food groups, nutrition, healthy diet, carbohydrate, fat, sugar, protein, fruit, vegetables, meat, fish, savoury	CAD (Computer Aided Design), vector graphics program, inkscape, layers, coding, laser cutting, 3d printing, plywood, varnish, wood stain
Topic links to:						
All ELGs		Geography – study of a seaside town			Citizenship Sci/ PSHE - nutrition	Y6 Pound Project Economic citizenship
Texts that link to the topic:						
		Non-fiction texts – Seaside Towns			Healthy eating/ cookery non-fiction books	