

# Curriculum Map

## Design Technology

Year	YEAR B					
EYFS		Autumn: Christmas Cards Mechanisms ‘Sliders and Leavers’		Spring: Layered Fruit Dish Food ‘Preparing fruit and vegetables’		Summer: Toy cars Mechanisms ‘Wheels and Axels’
		Links to previous learning		Links to previous learning		Links to previous learning
		Early experiences of working with paper and card to make simple flaps and hinges. Experience of simple cutting, shaping and joining skills using scissors, glue, paper fasteners and masking tape.		Experience of common fruit and vegetables, undertaking sensory activities i.e. appearance taste and smell. Experience of cutting soft fruit and vegetables using appropriate utensils.		Explored moving vehicles through play. Developed some cutting skills.
		Knowledge		Knowledge		Knowledge
		I know that some books and everyday products have moving parts (e.g. pop up books, books with sliders, wheels, levers and flaps that change a picture. I know and understand that sliders move up and down or side to side I know that a lever is fixed at the end and moved, up and over (around).		I know that I can eat fruit to stay healthy I know the names of some fruit I know and understand where a range of fruit comes from e.g. farmed or grown at home.		I know that vehicles have wheels and axels I know that when I push a toy vehicle it moves on its wheels
		Key Skills		Key Skills		Key Skills
		I can explore a range of existing books and everyday products that use simple sliders and levers. I can select and use tools, explaining their choices, to cut, shape and Join paper and card. I can use simple finishing techniques suitable for the product they are creating.		I can taste and evaluate a range of fruit I can use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely. I can select from a range of fruit according to their characteristics e.g. colour, texture and taste.		I can build construction kits with wheels and axels I can explore moving vehicles through play I can use 2Design and make (Purple Mash) Computer-Aided Design to work in 3D to make models and nets of objects e.g. vehicles. I can talk about my design
		Vocabulary		Vocabulary		Vocabulary
		slider, lever, slot, glue, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards and backwards		range of fresh fruit and vegetables, chopping boards, knives, peelers, graters, juicers, spoons, jugs, plates, bowls, clear plastic cup, aprons, hand washing and washing-up facilities		Toy vehicles, wheels, axels, straws, net, design
		Cultural opportunities		Cultural opportunities		Cultural opportunities
		Christmas		Fair Trade Fortnight		TBC
		Key values		Key values		Key values
		School Values: Happy, Healthy and Secure. Confident and Independent. Respectful and Caring. Inspired and Excited to Learn. Teamwork. British Values: The rule of law. Individual liberty. Mutual respect for and tolerance of those with different faiths and beliefs and for those without faith. Democracy. Christian Star Qualities: Love, Joy, Peace, Patience, Kindness, Gentleness, Self-Control, Faithfulness, Goodness.		School Values: Happy, Healthy and Secure. Confident and Independent. Respectful and Caring. Inspired and Excited to Learn. Teamwork. British Values: The rule of law. Individual liberty. Mutual respect for and tolerance of those with different faiths and beliefs and for those without faith. Democracy. Christian Star Qualities: Love, Joy, Peace, Patience, Kindness, Gentleness, Self-Control, Faithfulness, Goodness.		School Values: Happy, Healthy and Secure. Confident and Independent. Respectful and Caring. Inspired and Excited to Learn. Teamwork. British Values: The rule of law. Individual liberty. Mutual respect for and tolerance of those with different faiths and beliefs and for those without faith. Democracy. Christian Star Qualities: Love, Joy, Peace, Patience, Kindness, Gentleness, Self-Control, Faithfulness, Goodness.
		Book list & Resources		Book list & Resources		Book list & Resources
		Christmas cards, books with moving parts MovingPictures (stem.org.uk) (Saved on staff shared) books and everyday products with levers and slider mechanisms, slider and lever teaching aids, card strips, card rectangles, paper, masking tape, paper fasteners, paper binders, stick glue, PVA glue, finishing materials and media left/right handed scissors, cutting mats, card drills		Eatwell guide 2016 FINAL MAR29 (publishing.service.gov.uk) Healthy eating (3-5 Years) - Food A Fact Of Life		Let's Look at Vehicles - D&T Association (designtechnology.org.uk) Toys - D&T Association (designtechnology.org.uk) Purple Mash 2Design and Make
1	Topic	Autumn: Christmas Cards Mechanisms ‘Sliders and Leavers’		Spring: Layered Fruit Dish Food ‘Preparing fruit and vegetables’		Summer: Toy cars Mechanisms ‘Wheels and Axels’
		Links to previous Learning		Links to previous Learning		Links to previous Learning

	Early experiences of working with paper and card to make simple flaps and hinges. Experience of simple cutting, shaping and joining skills using scissors, glue, paper fasteners and masking tape.	Experience of common fruit and vegetables, undertaking sensory activities i.e. appearance taste and smell. Experience of cutting soft fruit and vegetables using appropriate utensils.	Assembled vehicles with moving wheels using construction kits. Explored moving vehicles through play. Gained some experience of designing, making and evaluating products for a specified user and purpose. Developed some cutting, joining and finishing skills with card.
	<b>Knowledge</b>		
	I know that some books and everyday products have moving parts (e.g. pop up books, books with sliders, wheels, levers and flaps that change a picture. I know and understand that different mechanisms produce different types of movement. I know and can use some technical vocabulary relevant to the project		
	<b>Key Skills</b>		
	<b>Designing</b> I can generate ideas based on simple design criteria and their own experiences, explaining what they could make. I can develop, model and communicate their ideas through drawings and mock-ups with card and paper. <b>Making</b> I can plan by suggesting what to do next. I can select and use tools, explaining their choices, to cut, shape and Join paper and card. I can use simple finishing techniques suitable for the product they are creating. <b>Evaluating</b> I can explore a range of existing books and everyday products that use simple sliders and levers. I can evaluate their product by discussing how well it works in relation to the purpose and the user and whether it meets design criteria. <b>Technical knowledge and understanding</b> I can explore and use sliders and levers. I can use technical vocabulary relevant to the project.		
	<b>Vocabulary</b> slider, lever, pivot, slot, bridge/glue, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards backwards		
	<b>Cultural Opportunities</b> Christmas		
	<b>Key values</b>	I know and understand where a range of fruit comes from e.g. farmed or grown at home. I know and understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of <i>The eatwell plate</i> . I know and use technical and sensory vocabulary relevant to the project.	I know about and have explored how to use wheels, axles and axle holders.  I know the difference between fixed and freely moving axles. I know and use technical vocabulary relevant to the project. I know that I can use Purple Mash 2Design to create a vehicle and other 3D models and shapes. I know how to save and retrieve my work.
	<b>School Values:</b> Happy, Healthy and Secure. Confident and Independent. Respectful and Caring. <b>Inspired and Excited to Learn.</b> Teamwork. <b>British Values:</b> The rule of law. Individual liberty. <b>Mutual respect for and tolerance of those with different faiths and beliefs and for those without faith.</b> Democracy.		
	<b>Key Skills</b>		
	<b>Designing</b> I can design appealing products for a particular user based on simple design criteria. I can generate initial ideas and design criteria through investigating a variety of fruit and vegetables. I can communicate these ideas through talk and drawings. <b>Making</b> I can use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely. I can select from a range of fruit according to their characteristics e.g. colour, texture and taste to create a chosen product. <b>Evaluating</b> I can taste and evaluate a range of fruit to determine the intended user's preferences. I can evaluate ideas and finished products against design criteria, including intended user and purpose.		
	<b>Vocabulary</b> range of fresh fruit and vegetables, chopping boards, knives, peelers, graters, juicers, spoons, jugs, plates, bowls, clear plastic cup, aprons, hand washing and washing-up facilities		
	<b>Cultural Opportunities</b> Fairtrade Fortnight		
	<b>Key values</b>		
	<b>School Values:</b> Happy, Healthy and Secure. Confident and Independent. Respectful and Caring. <b>Inspired and Excited to Learn.</b> Teamwork. <b>British Values:</b> The rule of law. Individual liberty. <b>Mutual respect for and tolerance of those with different faiths and beliefs and for those without faith.</b> Democracy.	I can generate initial ideas and simple design criteria through talking and using own experiences. I can develop and communicate ideas through drawings and mock-ups. <b>Making</b> I can select from and use a range of tools and equipment to perform practical tasks such as cutting and joining to allow movement and finishing. I can select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics. <b>Evaluating</b> I can explore and evaluate a range of products with wheels and axles. I can evaluate my ideas throughout and my products against original criteria.  <b>CAD Technical Skills</b> I can use 2Design and make (Purple Mash) Computer-Aided Design to work in 3D to make models and nets of objects e.g. vehicles. I can save and retrieve my work.	I can use 2Design and make (Purple Mash) Computer-Aided Design to work in 3D to make models and nets of objects e.g. vehicles. I can save and retrieve my work.
	<b>Key Skills</b>		
	<b>Designing</b> I can generate initial ideas and simple design criteria through talking and using own experiences. I can develop and communicate ideas through drawings and mock-ups. <b>Making</b> I can select from and use a range of tools and equipment to perform practical tasks such as cutting and joining to allow movement and finishing. I can select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics. <b>Evaluating</b> I can explore and evaluate a range of products with wheels and axles. I can evaluate my ideas throughout and my products against original criteria.  <b>CAD Technical Skills</b> I can use 2Design and make (Purple Mash) Computer-Aided Design to work in 3D to make models and nets of objects e.g. vehicles. I can save and retrieve my work.		
	<b>Vocabulary</b> selection of toy vehicles with differently fixed axles, card boxes, card, cotton reels, plastic tubing, dowel, clothes pegs, paper sticks/dowel, paper/plastic straws, card discs, MDF wheels, wooden wheels, single hole punch, card drill, cutting mat, masking tape, PVA glue, paint, thin/thick paint brushes, felt tip pens, decorative paper, double sided sticky fixers, junior hacksaw, vice, left/right handed scissors		
	<b>Cultural Opportunities</b> TBC		
	<b>Key values</b>		
	<b>School Values:</b> Happy, Healthy and Secure. Confident and Independent. Respectful and Caring. Inspired and Excited to Learn. Teamwork.		

		<b>Christian Star Qualities:</b> Love, Joy, Peace, Patience, Kindness, Gentleness, Self-Control, Faithfulness, Goodness.		<b>British Values:</b> The rule of law. Individual liberty. Mutual respect for and tolerance of those with different faiths and beliefs and for those without faith. Democracy. <b>Christian Star Qualities:</b> Love, Joy, Peace, Patience, Kindness, Gentleness, Self-Control, Faithfulness, Goodness.		<b>British Values:</b> The rule of law. Individual liberty. Mutual respect for and tolerance of those with different faiths and beliefs and for those without faith. Democracy. <b>Christian Star Qualities:</b> Love, Joy, Peace, Patience, Kindness, Gentleness, Self-Control, Faithfulness, Goodness.
		<b>Book List &amp; Resources</b>		<b>Book List &amp; Resources</b>		<b>Book List &amp; Resources</b>
		Christmas cards, books with moving parts <a href="#">MovingPictures (stem.org.uk)</a> (Saved on staff shared) books and everyday products with levers and slider mechanisms, slider and lever teaching aids, card strips, card rectangles, paper, masking tape, paper fasteners, paper binders, stick glue, PVA glue, finishing materials and media left/right handed scissors, cutting mats, card drills		<a href="#">Eatwell guide 2016 FINAL MAR29 (publishing.service.gov.uk)</a> <a href="#">Healthy eating (5-7 Years) - Food A Fact Of Life</a> <a href="#">24 Fantastic Fruit Facts for Kids - Facts Legend</a>		<a href="#">Let's Look at Vehicles - D&amp;T Association (designtechnology.org.uk)</a> <a href="#">Toys - D&amp;T Association (designtechnology.org.uk)</a> <b>Purple Mash 2Design and Make</b>
YEAR C						
2	Topic	<b>Autumn: Christmas Cards Mechanisms ‘Sliders and Leavers’</b>		<b>Spring: Layered Fruit Dish Food ‘Preparing fruit and vegetables’</b>		<b>Summer: Toy cars Mechanisms ‘Wheels and Axels’</b>
		<b>Links to previous Learning</b>		<b>Links to previous Learning</b>		<b>Links to previous Learning</b>
		I know and understand how simple 3-D textile products are made, using a template to create two identical shapes. I know and understand how to join using different techniques e.g. glue and stapling.		Experience of common fruit and vegetables, undertaking sensory activities i.e. appearance taste and smell. Experience of cutting soft fruit and vegetables using appropriate utensils. I know where some fruit and vegetables come from I explored characteristics of some vegetables I used some simple utensils and equipment (knife, bowl, peeler) I know the basic principles of a healthy diet		Assembled vehicles with moving wheels using construction kits. Explored moving vehicles through play. Gained some experience of designing, making and evaluating products for a specified user and purpose. Developed some cutting, joining and finishing skills with card.
		<b>Knowledge</b>		<b>Knowledge</b>		<b>Knowledge</b>
		I know that some books and everyday products have moving parts (e.g. pop up books, books with sliders, wheels, levers and flaps that change a picture. I know and understand that different mechanisms produce different types of movement. I know and can use some technical vocabulary relevant to the project.		I know and understand where a range of fruit comes from e.g. farmed or grown at home. I know and understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of <i>The eatwell plate</i> . I know and use technical and sensory vocabulary relevant to the project.		I know about and have explored how to use wheels, axles and axle holders. I know the difference between fixed and freely moving axles. I know and use technical vocabulary relevant to the project. I know that I can use Purple Mash 2Design to create a vehicle and other 3D models and shapes. I know how to save and retrieve my work.
		<b>Key Skills</b>		<b>Key Skills</b>		<b>Key Skills</b>
		<b>Designing</b> I can generate ideas based on simple design criteria and their own experiences, explaining what they could make. I can develop, model and communicate their ideas through drawings and mock-ups with card and paper. <b>Making</b> I can plan by suggesting what to do next. I can select and use tools, explaining their choices, to cut, shape and Join paper and card. I can use simple finishing techniques suitable for the product they are creating. <b>Evaluating</b> I can explore a range of existing books and everyday products that use simple sliders and levers. I can evaluate their product by discussing how well it works in relation to the purpose and the user and whether it meets design criteria. <b>Technical knowledge and understanding</b>		<b>Designing</b> I can design appealing products for a particular user based on simple design criteria. I can generate initial ideas and design criteria through investigating a variety of fruit and vegetables. I can communicate these ideas through talk and drawings. <b>Making</b> I can use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely. I can select from a range of fruit according to their characteristics e.g. colour, texture and taste to create a chosen product. <b>Evaluating</b> I can taste and evaluate a range of fruit to determine the intended user’s preferences. I can evaluate ideas and finished products against design criteria, including intended user and purpose.		<b>Designing</b> I can generate initial ideas and simple design criteria through talking and using own experiences. I can develop and communicate ideas through drawings and mock-ups. <b>Making</b> I can select from and use a range of tools and equipment to perform practical tasks such as cutting and joining to allow movement and finishing. I can select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics. <b>Evaluating</b> I can explore and evaluate a range of products with wheels and axles. I can evaluate my ideas throughout and my products against original criteria.  <b>CAD Technical Skills</b> I can use 2Design and make (Purple Mash) Computer-Aided Design to work in 3D to make models and nets of objects e.g. vehicles.

		I can explore and use sliders and levers. I can use technical vocabulary relevant to the project.			I can save and retrieve my work.
		<b>Vocabulary</b>			<b>Vocabulary</b>
		slider, lever, pivot, slot, bridge/glue, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards backwards  design, make, evaluate, user, purpose, ideas, design criteria, product, function			selection of toy vehicles with differently fixed axles, card boxes, card, cotton reels, plastic tubing, dowel, clothes pegs, paper sticks/dowel, paper/plastic straws, card discs, MDF wheels, wooden wheels, single hole punch, card drill, cutting mat, masking tape, PVA glue, paint, thin/thick paint brushes, felt tip pens, decorative paper, double sided sticky fixers, junior hacksaw, vice, left/right handed scissors
		<b>Cultural Opportunities</b>			<b>Cultural Opportunities</b>
		<b>Christmas</b>			
		<b>Key values</b>			<b>Key values</b>
		<b>School Values:</b> Happy, Healthy and Secure. Confident and Independent. Respectful and Caring. <b>Inspired and Excited to Learn.</b> Teamwork. <b>British Values:</b> The rule of law. Individual liberty. <b>Mutual respect for and tolerance of those with different faiths and beliefs and for those without faith.</b> Democracy. <b>Christian Star Qualities:</b> Love, <b>Joy</b> , Peace, <b>Patience</b> , <b>Kindness</b> , Gentleness, Self-Control, Faithfulness, Goodness.			<b>School Values:</b> <b>Happy, Healthy and Secure.</b> <b>Confident and Independent.</b> Respectful and Caring. Inspired and Excited to Learn. Teamwork. <b>British Values:</b> The rule of law. <b>Individual liberty.</b> Mutual respect for and tolerance of those with different faiths and beliefs and for those without faith. Democracy. <b>Christian Star Qualities:</b> <b>Love, Joy</b> , Peace, <b>Patience</b> , Kindness, <b>Gentleness, Self-Control</b> , Faithfulness, Goodness.
		<b>Book List &amp; Resources</b>			<b>Book List &amp; Resources</b>
		Christmas cards, books with moving parts <a href="#">MovingPictures (stem.org.uk)</a> (Saved on staff shared) books and everyday products with levers and slider mechanisms, slider and lever teaching aids, card strips, card rectangles, paper, masking tape, paper fasteners, paper binders, stick glue, PVA glue, finishing materials and media left/right handed scissors, cutting mats, card drills			<a href="#">Eatwell guide 2016 FINAL MAR29 (publishing.service.gov.uk)</a> <a href="#">Healthy eating (5-7 Years) - Food A Fact Of Life</a> <a href="#">24 Fantastic Fruit Facts for Kids - Facts Legend</a>

YEAR C

3	Topic	<b>Autumn:</b> <b>Mechanical Systems ‘Pulleys or Gears’</b>	Topic	<b>Spring</b> <b>Food ‘Healthy and Varied Diet’</b>	Topic	<b>Summer Night Light</b> <b>Electrical Systems ‘simple programming and control’</b>
		<b>Links to previous Learning</b>		<b>Links to previous Learning</b>		<b>Links to previous Learning</b>
		Experience of axles, axle holders and wheels that are fixed or free moving, Experience of cutting and joining techniques with a range of materials including card, plastic and wood An understanding of strengthening and stiffening structures is also required for good outcomes.		I know and understand where a range of fruit and vegetables come from, e.g. farmed or grown at home. I know and understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of <i>The eatwell plate</i> . I can use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely.		<b>(Taught after covered in science during summer 1)</b> Constructed a simple series electrical circuit, using bulbs, batteries, switches and buzzers. Cut and joined a variety of construction materials, such as wood, card, plastic, reclaimed materials and glue. Constructed a simple series electrical circuit, using bulbs, batteries, switches and buzzers.
		<b>Knowledge</b>		<b>Knowledge</b>		<b>Knowledge</b>
		I know that mechanisms are devices that we create to help us. I know that most mechanisms are designed to change smaller input forces and motion into greater output force and motion. I know what a pulley is and I understand how it works. I know some uses of pulleys. I know what a gear is and I understand how it works. I know some uses of gears. I know and can use technical vocabulary relevant to the project. I know how to safely work with tools and equipment.		I know how to use appropriate equipment and utensils to prepare and combine food. I know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught. I know and use relevant technical and sensory vocabulary appropriately.		I know, understand and use computing to program and control products containing electrical systems, such as series circuits incorporating switches, bulbs and buzzers. I know and use technical vocabulary relevant to the project.
		<b>Key Skills</b>		<b>Key Skills</b>		<b>Key Skills</b>
		<b>Designing</b>		<b>Designing</b>		<b>Designing</b>
		I can generate innovative ideas by carrying out research using surveys, interviews, questionnaires and web-based resources. I can develop a simple design specification to guide their thinking.		I can generate and clarify ideas through discussion with peers and adults to develop design criteria including appearance, taste, texture and aroma for an appealing product for a particular user and purpose.		I can gather information about users’ needs and wants, and develop design criteria to inform the design of products that are fit for purpose.



		<p>I can develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views.</p> <p><b>Making</b></p> <p>I can produce detailed lists of tools, equipment and materials. Formulate step-by-step plans and, if appropriate, allocate tasks within a team.</p> <p>I can select from and use a range of tools and equipment to make products that that are accurately assembled and well finished.</p> <p>I can work within the constraints of time, resources and cost.</p> <p><b>Evaluating</b></p> <p>I can compare the final product to the original design specification.</p> <p>I can test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.</p> <p>I can consider the views of others to improve their work.</p> <p>I can investigate famous manufacturing and engineering companies relevant to the project.</p> <p><b>Technical knowledge and understanding</b></p> <p>I can understand that mechanical and electrical systems have an input, process and an output.</p> <p>I can understand how gears and pulleys can be used to speed up, slow down or change the direction of movement.</p>		<p>I can use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas.</p> <p><b>Making</b></p> <p>I can plan the main stages of a recipe, listing ingredients, utensils and equipment.</p> <p>I can select and use appropriate utensils and equipment to prepare and combine ingredients.</p> <p>I can select from a range of ingredients to make appropriate food products, thinking about sensory characteristics.</p> <p><b>Evaluating</b></p> <p>I can carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs.</p> <p>I can evaluate the ongoing work and the final product with reference to the design criteria and the views of others.</p>		<p>I can generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross-sectional and exploded diagrams.</p> <p><b>Making</b></p> <p>I can order the main stages of making.</p> <p>I can select from and use tools and equipment to cut, shape, join and finish with some accuracy.</p> <p>I can connect simple electrical components and a battery in a series circuit to achieve a functional outcome.</p> <p>I can program a standalone control box, microcontroller or interface box to enhance the way the product works.</p> <p><b>Evaluating</b></p> <p>I can investigate and analyse a range of existing battery-powered products, including pre-programmed and programmable products.</p> <p>I can evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work.</p>
		<p><b>Vocabulary</b></p> <p>Pulley, Drive belt, Gear, Rotation, Spindle, Driver, Follower, Ratio, Transmit, Axle, Motor, Circuit, Switch, Circuit diagram, Microcontroller</p> <p>Annotated drawings, Exploded diagrams, Mechanical system, Electrical system, Input, Process, Output, Design decisions, Functionality, Innovation, Authentic, User, Purpose, Design specification, Design brief</p>		<p><b>Vocabulary</b></p> <p>information about foods from around the world, basic recipes</p> <p>range of relevant example foods to taste and evaluate</p> <p>suitable equipment and utensils such as: knives, chopping board, weighing scales, measuring jugs, bowls, baking trays, spoons (various sizes), parchment paper, plastic film</p>		<p><b>Vocabulary</b></p> <p>series circuit, fault, connection, toggle switch, push-to-make switch, push-to-break switch, battery, battery holder, light emitting diode (LED), bulb, bulb holder, USB cable, wire, insulator, conductor, crocodile clip control, program, system, input device, output device, process user, purpose, function, prototype, design criteria, innovative, appealing, design brief</p>
		<p><b>Cultural Opportunities</b></p>		<p><b>Cultural Opportunities</b></p>		<p><b>Cultural Opportunities</b></p>
		<p><b>Key values</b></p> <p><b>School Values:</b> Happy, Healthy and Secure. Confident and Independent. Respectful and Caring. <b>Inspired and Excited to Learn.</b> Teamwork.</p> <p><b>British Values:</b> The rule of law. Individual liberty. <b>Mutual respect for and tolerance of those with different faiths and beliefs and for those without faith.</b> Democracy.</p> <p><b>Christian Star Qualities:</b> Love, <b>Joy</b>, Peace, <b>Patience</b>, <b>Kindness</b>, Gentleness, Self-Control, Faithfulness, Goodness.</p>		<p><b>Key values</b></p> <p><b>School Values:</b> Happy, Healthy and Secure. Confident and Independent. Respectful and Caring. <b>Inspired and Excited to Learn.</b> Teamwork.</p> <p><b>British Values:</b> The rule of law. Individual liberty. <b>Mutual respect for and tolerance of those with different faiths and beliefs and for those without faith.</b> Democracy.</p> <p><b>Christian Star Qualities:</b> Love, <b>Joy</b>, Peace, <b>Patience</b>, <b>Kindness</b>, Gentleness, Self-Control, Faithfulness, Goodness.</p>		<p><b>Key values</b></p> <p><b>School Values:</b> Happy, Healthy and Secure. Confident and Independent. Respectful and Caring. <b>Inspired and Excited to Learn.</b> Teamwork.</p> <p><b>British Values:</b> The rule of law. Individual liberty. <b>Mutual respect for and tolerance of those with different faiths and beliefs and for those without faith.</b> Democracy.</p> <p><b>Christian Star Qualities:</b> Love, <b>Joy</b>, Peace, <b>Patience</b>, <b>Kindness</b>, Gentleness, Self-Control, Faithfulness, Goodness.</p>
		<p><b>Book List &amp; Resources</b></p> <p>videos, photographs and everyday products or toys with pulleys or gears</p> <p>batteries, battery holders, wires, crocodile clips, motors, switches, aluminium foil, paper fasteners, paper clips, card, motors, motor stands, dowel, paper sticks, consumable and construction kit pulleys or gears of different sizes, elastic bands, junior hacksaws, glass paper, G-clamps, bench hooks, hand drill, automatic wire strippers, PVA glue, sticky pads, masking tape, dowel, double-sided tape, card triangles, square section wood, card, corrugated plastic, finishing media</p>		<p><b>Book List &amp; Resources</b></p> <p><a href="#">Dips and dippers YR3 - D&amp;T Association (designtechnology.org.uk)</a></p> <p><a href="#">Super Salads - D&amp;T Association (designtechnology.org.uk)</a></p> <p><a href="#">Soups - Celebrating culture and seasonality - D&amp;T Association (designtechnology.org.uk)</a></p> <p><a href="#">Free education resources for teaching young people aged 3-16 years about where food comes from, cooking and healthy eating, and teacher training. - Food A Fact Of Life</a></p> <p><a href="#">The Eatwell Guide - GOV.UK (www.gov.uk)</a></p>		<p><b>Book List &amp; Resources</b></p> <p><a href="#">Torches, Lamps and Lanterns - D&amp;T Association (designtechnology.org.uk)</a></p> <p><a href="#">Developing handmade switches - D&amp;T Association (designtechnology.org.uk)</a></p> <p><a href="#">Night lights (links to Literacy) YR3 - D&amp;T Association (designtechnology.org.uk)</a></p> <p><a href="#">Hand-made switches helpsheet - D&amp;T Association (designtechnology.org.uk)</a></p>
YEAR C						
4	Topic	Autumn:	Topic	Spring		Summer
		Mechanical Systems ‘Pulleys or Gears’				
		Links to previous Learning				Links to previous Learning
		Experience of axles, axle holders and wheels that are fixed or free moving,		I know and understand where a range of fruit and vegetables come from, e.g. farmed or grown at home.		<b>(Taught after covered in science during summer 1)</b>

	Experience of cutting and joining techniques with a range of materials including card, plastic and wood An understanding of strengthening and stiffening structures A basic understanding of electrical circuits, simple switches and components.	I know and understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of <i>The eatwell plate</i> . I can use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely.	Constructed a simple series electrical circuit, using bulbs, batteries, switches and buzzers. Cut and joined a variety of construction materials, such as wood, card, plastic, reclaimed materials and glue. Constructed a simple series electrical circuit, using bulbs, batteries, switches and buzzers.
	<b>Knowledge</b>	<b>Knowledge</b>	<b>Knowledge</b>
	I know that mechanisms are devices that we create to help us. I know that most mechanisms are designed to change smaller input forces and motion into greater output force and motion. I know what a pulley is and I understand how it works. I know some uses of pulleys. I know what a gear is and I understand how it works. I know some uses of gears. I know and can use technical vocabulary relevant to the project. I know how to safely work with tools and equipment.	I know how to use appropriate equipment and utensils to prepare and combine food. I know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught. I know and use relevant technical and sensory vocabulary appropriately.	I know, understand and use computing to program and control products containing electrical systems, such as series circuits incorporating switches, bulbs and buzzers. I know and use technical vocabulary relevant to the project.
	<b>Key Skills</b>	<b>Key Skills</b>	<b>Key Skills</b>
	<b>Designing</b> I can generate innovative ideas by carrying out research using surveys, interviews, questionnaires and web-based resources. I can develop a simple design specification to guide their thinking. I can develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views.	<b>Designing</b> I can generate and clarify ideas through discussion with peers and adults to develop design criteria including appearance, taste, texture and aroma for an appealing product for a particular user and purpose. I can use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas.	<b>Designing</b> I can gather information about users' needs and wants, and develop design criteria to inform the design of products that are fit for purpose. I can generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross-sectional and exploded diagrams.
	<b>Making</b> I can produce detailed lists of tools, equipment and materials. Formulate step-by-step plans and, if appropriate, allocate tasks within a team. I can select from and use a range of tools and equipment to make products that that are accurately assembled and well finished. I can work within the constraints of time, resources and cost.	<b>Making</b> I can plan the main stages of a recipe, listing ingredients, utensils and equipment. I can select and use appropriate utensils and equipment to prepare and combine ingredients. I can select from a range of ingredients to make appropriate food products, thinking about sensory characteristics.	<b>Making</b> I can order the main stages of making. I can select from and use tools and equipment to cut, shape, join and finish with some accuracy. I can connect simple electrical components and a battery in a series circuit to achieve a functional outcome. I can program a standalone control box, microcontroller or interface box to enhance the way the product works.
	<b>Evaluating</b> I can compare the final product to the original design specification. I can test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. I can consider the views of others to improve their work. I can investigate famous manufacturing and engineering companies relevant to the project.	<b>Evaluating</b> I can carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs. I can evaluate the ongoing work and the final product with reference to the design criteria and the views of others.	<b>Evaluating</b> I can investigate and analyse a range of existing battery-powered products, including pre-programmed and programmable products. I can evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work.
	<b>Technical knowledge and understanding</b> I can understand that mechanical and electrical systems have an input, process and an output. I can understand how gears and pulleys can be used to speed up, slow down or change the direction of movement.		
	<b>Vocabulary</b>	<b>Vocabulary</b>	<b>Vocabulary</b>
	Pulley, Drive belt, Gear, Rotation, Spindle, Driver, Follower, Ratio, Transmit, Axle, Motor, Circuit, Switch, Circuit diagram, Microcontroller Annotated drawings, Exploded diagrams, Mechanical system, Electrical system, Input, Process, Output, Design decisions, Functionality, Innovation, Authentic, User, Purpose, Design specification, Design brief	information about foods from around the world, basic recipes range of relevant example foods to taste and evaluate suitable equipment and utensils such as: knives, chopping board, weighing scales, measuring jugs, bowls, baking trays, spoons – various sizes, parchment paper, plastic film	series circuit, fault, connection, toggle switch, push-to-make switch, push-to-break switch, battery, battery holder, light emitting diode (LED), bulb, bulb holder, USB cable, wire, insulator, conductor, crocodile clip control, program, system, input device, output device, process user, purpose, function, prototype, design criteria, innovative, appealing, design brief
	<b>Cultural Opportunities</b>	<b>Cultural Opportunities</b>	<b>Cultural Opportunities</b>
	<b>TBC</b>	<b>Residential</b>	Link to science (taught after being covered in science)
	<b>Key values</b>	<b>Key values</b>	<b>Key values</b>
	<b>School Values:</b> Happy, Healthy and Secure. Confident and Independent. Respectful and Caring. <b>Inspired and Excited to Learn.</b> Teamwork.	<b>School Values:</b> Happy, Healthy and Secure. Confident and Independent. Respectful and Caring. <b>Inspired and Excited to Learn.</b> Teamwork.	<b>School Values:</b> Happy, Healthy and Secure. Confident and Independent. Respectful and Caring. <b>Inspired and Excited to Learn.</b> Teamwork.

		<b>British Values:</b> The rule of law. Individual liberty. Mutual respect for and tolerance of those with different faiths and beliefs and for those without faith. Democracy. <b>Christian Star Qualities:</b> Love, Joy, Peace, Patience, Kindness, Gentleness, Self-Control, Faithfulness, Goodness.			<b>British Values:</b> The rule of law. Individual liberty. Mutual respect for and tolerance of those with different faiths and beliefs and for those without faith. Democracy. <b>Christian Star Qualities:</b> Love, Joy, Peace, Patience, Kindness, Gentleness, Self-Control, Faithfulness, Goodness.			<b>British Values:</b> The rule of law. Individual liberty. Mutual respect for and tolerance of those with different faiths and beliefs and for those without faith. Democracy. <b>Christian Star Qualities:</b> Love, Joy, Peace, Patience, Kindness, Gentleness, Self-Control, Faithfulness, Goodness.
		<b>Book List &amp; Resources</b>			<b>Book List &amp; Resources</b>			<b>Book List &amp; Resources</b>
		videos, photographs and everyday products or toys with pulleys or gears batteries, battery holders, wires, crocodile clips, motors, switches, aluminium foil, paper fasteners, paper clips, card, motors, motor stands, dowel, paper sticks consumable and construction kit pulleys or gears of different sizes, elastic bands junior hacksaws, glass paper, G-clamps, bench hooks, hand drill, automatic wire strippers PVA glue, sticky pads, masking tape, dowel, double-sided tape, card triangles, square section wood, card, corrugated plastic, finishing media			<a href="#">Dips and dippers YR3 - D&amp;T Association (designtechnology.org.uk)</a> <a href="#">Super Salads - D&amp;T Association (designtechnology.org.uk)</a> <a href="#">Soups - Celebrating culture and seasonality - D&amp;T Association (designtechnology.org.uk)</a> <a href="#">Free education resources for teaching young people aged 3-16 years about where food comes from, cooking and healthy eating, and teacher training. - Food A Fact Of Life</a> <a href="#">The Eatwell Guide - GOV.UK (www.gov.uk)</a>			<a href="#">Torches, Lamps and Lanterns - D&amp;T Association (designtechnology.org.uk)</a> <a href="#">Developing handmade switches - D&amp;T Association (designtechnology.org.uk)</a>  <a href="#">Night lights (links to Literacy) YR3 - D&amp;T Association (designtechnology.org.uk)</a>  <a href="#">Hand-made switches helpsheet - D&amp;T Association (designtechnology.org.uk)</a>
YEAR C								
5	Topic	<b>Autumn:</b>	Topic	Spring	Topic	<b>Summer</b>		
		<b>Mechanical Systems ‘Pulleys or Gears’</b>						
		<b>Links to previous Learning</b>				<b>Links to previous Learning</b>		
		Experience of axles, axle holders and wheels that are fixed or free moving, Experience of cutting and joining techniques with a range of materials including card, plastic and wood An understanding of strengthening and stiffening structures A basic understanding of electrical circuits, simple switches and components.				<b>(Taught after covered in science during summer 1)</b> Constructed a simple series electrical circuit, using bulbs, batteries, switches and buzzers. Cut and joined a variety of construction materials, such as wood, card, plastic, reclaimed materials and glue. Constructed a simple series electrical circuit, using bulbs, batteries, switches and buzzers.		
		<b>Knowledge</b>				<b>Knowledge</b>		
		I know that mechanisms are devices that we create to help us. I know that most mechanisms are designed to change smaller input forces and motion into greater output force and motion. I know what a pulley is and I understand how it works. I know some uses of pulleys. I know what a gear is and I understand how it works. I know some uses of gears. I know and can use technical vocabulary relevant to the project. I know how to safely work with tools and equipment.				I know, understand and use computing to program and control products containing electrical systems, such as series circuits incorporating switches, bulbs and buzzers. I know and use technical vocabulary relevant to the project.		
		<b>Skills</b>				<b>Skills</b>		
		<b>Designing</b>				<b>Designing</b>		
		I can generate innovative ideas by carrying out research using surveys, interviews, questionnaires and web-based resources. I can develop a simple design specification to guide their thinking. I can develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views.				I can gather information about users’ needs and wants, and develop design criteria to inform the design of products that are fit for purpose. I can generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross-sectional and exploded diagrams.		
		<b>Making</b>				<b>Making</b>		
		I can produce detailed lists of tools, equipment and materials. Formulate step-by-step plans and, if appropriate, allocate tasks within a team. I can select from and use a range of tools and equipment to make products that that are accurately assembled and well finished. I can work within the constraints of time, resources and cost.				I can order the main stages of making. I can select from and use tools and equipment to cut, shape, join and finish with some accuracy. I can connect simple electrical components and a battery in a series circuit to achieve a functional outcome. I can program a standalone control box, microcontroller or interface box to enhance the way the product works.		
		<b>Evaluating</b>				<b>Evaluating</b>		
		I can compare the final product to the original design specification. I can test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.						

	<p>I can consider the views of others to improve their work. I can investigate famous manufacturing and engineering companies relevant to the project.</p> <p><b>Technical knowledge and understanding</b> I can understand that mechanical and electrical systems have an input, process and an output. I can understand how gears and pulleys can be used to speed up, slow down or change the direction of movement.</p>	<p>I can carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs. I can evaluate the ongoing work and the final product with reference to the design criteria and the views of others.</p>	<p>I can investigate and analyse a range of existing battery-powered products, including pre-programmed and programmable products. I can evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work.</p>
	<b>Vocabulary</b>	<b>Vocabulary</b>	<b>Vocabulary</b>
	Pulley, Drive belt, Gear, Rotation, Spindle, Driver, Follower, Ratio, Transmit, Axle, Motor, Circuit, Switch, Circuit diagram, Microcontroller Annotated drawings, Exploded diagrams, Mechanical system, Electrical system, Input, Process, Output, Design decisions, Functionality, Innovation, Authentic, User, Purpose, Design specification, Design brief	information about foods from around the world, basic recipes range of relevant example foods to taste and evaluate suitable equipment and utensils such as: knives, chopping board, weighing scales, measuring jugs, bowls, baking trays, spoons – various sizes, parchment paper, plastic film	series circuit, fault, connection, toggle switch, push-to-make switch, push-to-break switch, battery, battery holder, light emitting diode (LED), bulb, bulb holder, USB cable, wire, insulator, conductor, crocodile clip control, program, system, input device, output device, process user, purpose, function, prototype, design criteria, innovative, appealing, design brief
	<b>Cultural Opportunities</b>	<b>Cultural Opportunities</b>	<b>Cultural Opportunities</b>
	TBC	Residential	Link to science (taught after being covered in science)
	<b>Key values</b>	<b>Key values</b>	<b>Key values</b>
	<p><b>School Values:</b> Happy, Healthy and Secure. Confident and Independent. Respectful and Caring. Inspired and Excited to Learn. Teamwork. <b>British Values:</b> The rule of law. Individual liberty. Mutual respect for and tolerance of those with different faiths and beliefs and for those without faith. Democracy. <b>Christian Star Qualities:</b> Love, Joy, Peace, Patience, Kindness, Gentleness, Self-Control, Faithfulness, Goodness.</p>	<p><b>School Values:</b> Happy, Healthy and Secure. Confident and Independent. Respectful and Caring. Inspired and Excited to Learn. Teamwork. <b>British Values:</b> The rule of law. Individual liberty. Mutual respect for and tolerance of those with different faiths and beliefs and for those without faith. Democracy. <b>Christian Star Qualities:</b> Love, Joy, Peace, Patience, Kindness, Gentleness, Self-Control, Faithfulness, Goodness.</p>	<p><b>School Values:</b> Happy, Healthy and Secure. Confident and Independent. Respectful and Caring. Inspired and Excited to Learn. Teamwork. <b>British Values:</b> The rule of law. Individual liberty. Mutual respect for and tolerance of those with different faiths and beliefs and for those without faith. Democracy. <b>Christian Star Qualities:</b> Love, Joy, Peace, Patience, Kindness, Gentleness, Self-Control, Faithfulness, Goodness.</p>
	<b>Book List &amp; Resources</b>	<b>Book List &amp; Resources</b>	<b>Book List &amp; Resources</b>
	videos, photographs and everyday products or toys with pulleys or gears batteries, battery holders, wires, crocodile clips, motors, switches, aluminium foil, paper fasteners, paper clips, card, motors, motor stands, dowel, paper sticks consumable and construction kit pulleys or gears of different sizes, elastic bands junior hacksaws, glass paper, G-clamps, bench hooks, hand drill, automatic wire strippers PVA glue, sticky pads, masking tape, dowel, double-sided tape, card triangles, square section wood, card, corrugated plastic, finishing media	<a href="https://www.designtechnology.org.uk/resources/primary/3-4/dips-and-dippers/">Dips and dippers YR3 - D&amp;T Association (designtechnology.org.uk)</a> <a href="https://www.designtechnology.org.uk/resources/primary/3-4/super-salads/">Super Salads - D&amp;T Association (designtechnology.org.uk)</a> <a href="https://www.designtechnology.org.uk/resources/primary/3-4/soups/">Soups - Celebrating culture and seasonality - D&amp;T Association (designtechnology.org.uk)</a> <a href="https://www.designtechnology.org.uk/resources/primary/3-4/free-education-resources-for-teaching-young-people-aged-3-16-years-about-where-food-comes-from-cooking-and-healthy-eating-and-teacher-training/">Free education resources for teaching young people aged 3-16 years about where food comes from, cooking and healthy eating, and teacher training. - Food A Fact Of Life</a> <a href="https://www.gov.uk/government/publications/the-eatwell-guide">The Eatwell Guide - GOV.UK (www.gov.uk)</a>	<a href="https://www.designtechnology.org.uk/resources/primary/3-4/torches-lamps-and-lanterns/">Torches, Lamps and Lanterns - D&amp;T Association (designtechnology.org.uk)</a> <a href="https://www.designtechnology.org.uk/resources/primary/3-4/developing-handmade-switches/">Developing handmade switches - D&amp;T Association (designtechnology.org.uk)</a>  <a href="https://www.designtechnology.org.uk/resources/primary/3-4/night-lights/">Night lights (links to Literacy) YR3 - D&amp;T Association (designtechnology.org.uk)</a>  <a href="https://www.designtechnology.org.uk/resources/primary/3-4/hand-made-switches-helpsheet/">Hand-made switches helpsheet - D&amp;T Association (designtechnology.org.uk)</a>
	YEAR B		