

DT Long Term Overview

	Autumn	Spring	Summer	Assessment
Year N	Projects and activities will be driven by the needs, interests and experiences of the pupils involved.			By the end of nursery:
	<p>Provide a range of materials for pupils to explore and play with understanding the world around them and using them to represent objects e.g. toilet role as a telescope. Ensure that you observe and sometimes take part in children’s make-believe play in order to gain an understanding of their interests, reflecting on the children’s own explorations and creations.</p> <p>The focus should be on 1 type of construction material at a time.</p> <p>For example: Duplo, junk modelling, natural resources, stickle bricks</p> <p>Encourage and support the inventive ways in which children use space, combine and transform both 3D and 2D materials.</p>	<p>Provide a range of materials for pupils to explore and play developing their ability to construct materials e.g. balancing, stacking. The focus should be on 1 type of construction material at a time.</p> <p>For example: Duplo, junk modelling, natural resources, stickle bricks,</p> <p>When children have a strong intention in mind, support them in thinking about what they want to create, the processes that may be involved and the materials and resources they might need.</p>	<p>Support pupils in using resources to begin to create simple props to support their play. Pupils will be supported in using tools for a specific purpose. Recognise that children can become fascinated by a pattern of actions or interactions with tools and materials, gaining confidence over time. Introduce new skills and techniques based on your observations and knowledge of children’s interests and skills.</p>	<p>Use objects in make believe play.</p> <p>Build, stack vertically and horizontally, join pieces and make enclosures creating spaces.</p> <p>Use tools for a specific purpose.</p>
Year R	Projects and activities will be driven by the needs, interests and experiences of the pupils involved.			By the end of EYFS:
	<p>Use their increasing knowledge of tools and materials to explore their interests and enquiries and develop their thinking. Choose particular materials for their own imaginative purposes.</p> <p>Draw attention to children’s choice and use of materials, tools and techniques and experimentation with design, form and functions.</p> <p>Use individual, small group and large group discussion to regularly engage children in explaining they work in progress.</p>	<p>Describe a range of different food textures and tastes when cooking and notices changes when they are combined or exposed to hot and cold temperatures.</p> <p>Be aware that children may have sensory issues around food, texture, taste, smell or colour. Talk with parents and monitor supporting children in building self-confidence and broadening their food repertoire.</p>	<p>Eats a healthy range of food stuffs and understands a need for variety in food. Develop opportunities for pupils to grow, prepare and eat a range of healthy food. Give opportunities for pupils to choose from a variety of materials, tools and techniques allowing opportunity for experimentation. Pupils should explain the processes they have used and incorporate the props into their play.</p>	<p>Use different tools safely e.g. scissors, paint brushes, knife and fork.</p> <p>Use different materials and techniques with a specific outcome in mind.</p> <p>Make something for a specific purpose explaining how they have done this.</p> <p>Use their creations in their roleplay.</p>

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Year 1	<p>3D model of Lenton, Remembrance poppy</p> <p>Design a poppy for Remembrance Day and create a 3D map of Lenton to share with parents explaining how these will work.</p> <p>Look at examples of Poppy's and go for a walk around Lenton to help them generate ideas.</p> <p>Discuss ideas as a group to generate ideas – group drawings explaining their ideas.</p> <p>Model how to join, make 3D by creating a prototype. Include safety procedures.</p> <p>Provide a range of materials and tools discussing with pupils which they will select e.g. cardboard, paper, split pins, tissue paper.</p> <p>Pupils use templates to mark out, shape and cut the petals and leaves painting the final product.</p> <p>Provide box modelling, Lego, wooden block, stickle bricks etc... to allow pupils to build Lenton. Use sliders to make people move around the town.</p> <p>Discuss their design – successes and areas for improvement with adults.</p>	<p>Sock puppet</p> <p>Design a sock puppet as a prop in their story recreation. Pupils will generate simple success criteria with the teacher.</p> <p>Look at examples of puppets and discuss what they are, who they are for and how they work. Organise their likes and dislikes in a Venn diagram.</p> <p>Plan by talking about what the next steps are. Model ways to assemble. Join and combine the materials and components e.g. gluing eyes, stapling ears, threading pipe cleaners or threading beads.</p> <p>Provide a range of materials and tools discussing with pupils which they will select e.g., socks, eyes, beads, pipe cleaners, felt.</p> <p>Pupils use techniques to make their sock puppet discussing their design. They will evaluate their own design against the original design criteria.</p>	<p>Design a fruit salad for patients</p> <p>Visit the school kitchen and garden, explaining what they are wanting to make and why creating simple success criteria.</p> <p>With the school cook, discuss where food comes from and that it can be healthy and unhealthy.</p> <p>Discuss the fruit salad that we get served in school and compare it to other options available in shops. They will think about what the products are and who they are for.</p> <p>Pupils choose ingredients based on a variety of colour and their own preferences. School cook will model how to peel, grate and chop safely and hygienically.</p> <p>Once made, pupils will evaluate their final fruit salad against the success criteria.</p>	<p>By the end of year 1:</p> <p>Say what they are making and why.</p> <p>Select which materials they want to use.</p> <p>Be able to use scissors to cut and shape materials.</p> <p>Use glue to precisely attach two objects.</p> <p>Punch a hole in two pieces of carboard and use a split pin to create a moving join.</p> <p>Discuss their ideas with their teacher also evaluating their final product.</p> <p>Explain if food is healthy or unhealthy.</p> <p>Peel a variety of different fruits.</p>

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Year 2	Water collection system using levers wheels and axles	Quiver for Robin Hood’s arrows	Create a healthy snack that can be made when travelling	By the end of year 2:
	<p>Design a water collection system which would allow quicker and easier collection of water from River Trent during the Great Fire of London.</p> <p>Look at examples of different water collection systems to help them generate ideas including researching using IT. Use examples of buckets, pulleys, levers, hoses.</p> <p>Generate simple design criteria considering how they will make the product suitable for the intended user.</p> <p>Explore different ways of making objects move considering levers, wheels, axles modelling how they work so pupils can decide which to use in their model.</p> <p>Model how free-standing structures can be made stronger and stiffer.</p> <p>Make their product by measuring, marking and cutting out the pieces and assembling the components and pieces.</p> <p>Evaluate their product by making simple against the success criteria. Ensure pupils have chance to see if it can successfully move water.</p>	<p>Design a quiver which would hold Robin Hood’s arrows whilst also looking attractive.</p> <p>Look at examples of different quivers, bags etc... to help them generate ideas including researching using IT. Look at examples of fabric, stitching, how to make it look attractive.</p> <p>Generate simple design criteria considering how they will make the product suitable for the intended user.</p> <p>Explore different ways of joining the material so that it is durable. Consider gluing, stapling, threading and the strengths and weaknesses for these.</p> <p>Model how to complete a simple basting stitch – a bigger version of a running stitch.</p> <p>Make their product by measuring, marking and cutting out the pieces and assembling the components using a basting stitch.</p> <p>Evaluate their product by making simple against the success criteria. Ensure pupils have chance to see if it can successfully hold ‘arrows’.</p>	<p>Pupils will create a healthy snack which can be made while travelling around the world.</p> <p>Teach them that food has to be farmed, caught or grown elsewhere. Food is sorted into 5 groups and should be part of a balanced diet.</p> <p>Visit a local supermarket to see the variety of food, where they come from and if they are caught / grown.</p> <p>Look at examples of snacks that travellers make and the importance of them tasting nice.</p> <p>Plan a snack based on simple criteria using drawings and conversation to share their plans.</p> <p>Model how to safely use chopping boards, knives, peelers, graters and explaining the reason for using these.</p> <p>Make their product and evaluate it against the success criteria. Consider the snack’s appearance, taste, smell and if it is nutritious.</p>	<p>Create a list of simple design criteria.</p> <p>Use simple mechanisms like levers and sliders to make objects move.</p> <p>Make a free-standing object strong and stable.</p> <p>Say whether their product has been made successfully or not.</p> <p>Complete a simple basting stitch.</p> <p>Know the 5 groups in the Eatwell plate.</p> <p>Understand how to hygienically prepare a meal.</p>

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Year 3	<p>Pop up mummy from tomb - Pneumatic mechanism</p> <p>Create a pop-up mummy to scare potential grave robbers away.</p> <p>Research the why there is a need for security in pyramids and explore other products which use pneumatic mechanisms. As a class, generate realistic ideas through discussion.</p> <p>Develop a specific set of design criteria, including a strong stiff shell, as a class and use it to create a labelled diagram.</p> <p>Create a pictorial set of instructions for the product.</p> <p>Research what a pneumatic mechanism is and consider how they are used in current engineering – 2000 BCE bellows – 1799 George Medhurst. Bicycle pumps, brakes.</p> <p>Model how to make and operate a pneumatic mechanism.</p> <p>Pupils make their product using their design, ensuring that they accurately make cuts, holes etc...</p> <p>Finish product utilising techniques from Art and design.</p> <p>Evaluate their final product considering strengths and areas for development.</p>	<p>Viking longboat cushion</p> <p>Use a single piece of fabric to create a Viking longboat cushion which would be used to provide comfort on long journeys.</p> <p>Research the needs and wants of Vikings – why they would need a cushion allowing pupils to describe the purpose of their product.</p> <p>Look at a variety of cushions and investigate and analyse their design, construction and purpose.</p> <p>Research Paboy Bojang a cushion designer from the Gambia</p> <p>Identify a set of design criteria, selecting the most appropriate material for the task – paper, plastic or fabric?</p> <p>Model a running stitch, refining previous use of a basting stitch.</p> <p>Teach how to use mathematics to ensure the cushion is uniform.</p> <p>Make product in accordance with the design criteria.</p> <p>Think about improvements that could be made next time.</p>	<p>Make Gazpacho</p> <p>Plan and design a balanced meal based on their knowledge from the Eatwell plate.</p> <p>Learn that food is grown, reared and caught in the UK and wider world and that this determines the foods available and traditional foods eaten.</p> <p>Research recipes for gazpacho and consider if our food will be fresh, pre-cooked or processed and which ingredients will be included.</p> <p>Taste different types of gazpacho evaluating the taste, aroma, texture and appearance.</p> <p>Research Daniela Soto-Innes a famous Mexican chef.</p> <p>Model how to safely and hygienically peel, chop, slice, grate, mix and blend.</p> <p>Make an Eatwell label for the final recipe with the right colour coding.</p> <p>Taste and evaluate their final product.</p>	<p>By the end of year 3:</p> <p>Research information to create design criteria.</p> <p>Make a labelled diagram.</p> <p>Know how mechanical systems create movement.</p> <p>Understand that people use engineering, design etc... as a career.</p> <p>Make accurate cuts, holes and joins and a strong stiff shell</p> <p>Know how to improve their design.</p> <p>Understand that recipes are a form of plan.</p> <p>Understand that food can be fresh, processed or pre-cooked.</p> <p>Understand the importance of food labellings.</p> <p>Know how to safely use a variety of kitchen equipment.</p>

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Year 4	Rolling Curriculum Year 1		
	Create a moving model of a Victorian Fairground ride.	Cook food using ingredients that would have been used in WWII following a simple recipe.	Create a Protest banner using recycled fabric.
	Rolling Curriculum Year 2		
	Creating a moving model of vehicle that could be used to transport books in the Houses of Learning.	Cook food following a simple Greek recipe	Create an item of clothing or bag that can be used to advertise Fair Trade.
	Rolling Curriculum Year 3		
	Create a moving model of a machine that could be used by the Romans to attack a fort.	Cook food that could be eaten by King Arthur's knights on a crusade following a simple recipe.	Create a flag from a country of your choice

Year 4	<p>Autumn</p> <p>Research information about the product being designed and use this to develop a design criteria working in small groups.</p> <p>Start to use annotated sketches and cross-sectional drawings to develop and communicate their ideas.</p> <p>Use the most appropriate materials, tools and equipment for the task.</p> <p>Make a product which uses mechanical components using a wider variety of materials and components than KS1.</p> <p>Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material such as slots and cut outs. Measure and mark to the nearest cm.</p> <p>Apply a range of finishing techniques including those from art and design with some accuracy.</p> <p>Follow procedures for safety.</p> <p>Evaluate their product using the design criteria and Identifying what worked well and what they could improve.</p>	<p>Spring</p> <p>Research the needs and wants of the user and availability of ingredients. Then, as a class, use this to generate realistic ideas incorporating the balance of different foods and drinks</p> <p>Investigate and analyse a variety of food products looking at taste, appearance, texture and aroma.</p> <p>Investigate and analyse the ingredients in existing products and evaluate whether they are healthy or not.</p> <p>Describe and explain how their product is able to provide energy for their body.</p> <p>Select tools and equipment suitable for the task such as peeling, chopping, and slicing, grating, mixing, kneading and baking.</p> <p>Follow procedures for safety and hygiene including, where appropriate the use of a heat source.</p> <p>Assemble or cook ingredients need to follow a simple recipe; including weighing out to the nearest gram and controlling the temperature of the oven or hob if cooking.</p> <p>Identify what worked well and what they could improve on their recipe, for example, the attractiveness of my food dish.</p>	<p>Summer</p> <p>Research information about the product being designed and use this to develop a design criteria working in small groups.</p> <p>Share and clarify ideas through discussion and make design decisions that take account of the availability of the resources.</p> <p>Use annotated sketches to develop and communicate their ideas.</p> <p>Utilise given pattern templates for consistency</p> <p>Select the most appropriate materials, tools and equipment for the task.</p> <p>Use running-stitch.</p> <p>Measure and mark to the nearest cm.</p> <p>Follow procedures for safety.</p> <p>Evaluate their product using the design criteria and Identifying what worked well and what they could improve.</p>	<p>Assessment - at the end of Year 4 children should be able to:</p> <p>Research information and use this to develop a design criteria working in a small group.</p> <p>Start to use annotated sketches and cross-sectional drawings to develop and communicate ideas.</p> <p>Use appropriate materials, tools and equipment for a task.</p> <p>Make a product that uses a variety of materials or ingredients.</p> <p>Apply appropriate cutting, shaping techniques including measuring and marking to the nearest cm.</p> <p>Follow procedures for safety and hygiene.</p> <p>Confidently use running-stitch.</p> <p>Assemble or cook ingredients following a simple recipe.</p> <p>Evaluate the product produced.</p>
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	Autumn	Spring	Summer
Year 5	Rolling Curriculum Year 1		
	Create a moving model of a Victorian Fairground ride that includes an electric circuit.	Cook a meal using ingredients that would have been used in WWII following a recipe.	Create a Protest banner using recycled fabric using back stitch to attach letters and including join two pieces of fabric recognising the need for seam allowance.
	Rolling Curriculum Year 2		
	Creating a moving model of vehicle that could be used to transport books in the Houses of Learning that includes an electric circuit.	Cook a meal by following Greek recipes	Create an item of clothing or bag that can be used to advertise Fair Trade allow for seam allowance
	Rolling Curriculum Year 3		
	Create a moving model of a machine that could be used by the Romans to attack a fort that includes an electric circuit.	Cook a meal that could be eaten by King Arthur's knights on a crusade following a recipe.	Create a flag from a country of your choice using back-stitch and recognising the need for seam allowance.

Year 5	<p>Autumn</p> <p>Research information about the product being designed and use this to develop a design criteria working with a partner.</p> <p>Share and clarify ideas through discussion and make design decisions that take account of the availability of the resources</p> <p>Generate innovative ideas drawing on research and taking account of constraints such as time and resources.</p> <p>Use annotated sketches, cross-sectional drawings and start to use exploding diagrams to develop and communicate their ideas and explain how particular parts of their products work.</p> <p>Select and use the most appropriate material, tools and equipment for the task combining several different materials as needed.</p> <p>Follow procedures for safety.</p> <p>Make a product which uses a combination of electronics and mechanics.</p> <p>Begin to develop a range of practical skills to create products (such as cutting, drilling, screwing, nailing, gluing, filing and sanding.)</p> <p>Evaluate the quality of the design, manufacture and fitness for purpose of their products and design, identifying the strengths and areas for development on their product.</p>	<p>Spring</p> <p>Investigate and analyse a variety of food products looking at taste, appearance, texture and aroma.</p> <p>Investigate and analyse the ingredients in existing products and evaluate how the dish can be incorporated within a balanced diet.</p> <p>As a class generate innovative ideas for meals based on appearance, taste, texture and aroma.</p> <p>Follow a recipe that uses a variety of ingredients. Including accurately weighing out to the nearest gram.</p> <p>Follow procedures for safety and hygiene including, the importance of correct storage and handling of ingredients and where appropriate the use of a heat source</p> <p>Beginning to demonstrate a range of baking and cooking techniques.</p> <p>Identify the strengths and areas of development in their recipe, for example, identifying the nutritional value of their dish. Evaluate the taste, aroma, appearance and texture of their dish against the recipe.</p>	<p>Summer</p> <p>Research information about the product being designed and use this to develop a design criteria working with a partner.</p> <p>Generate innovative ideas drawing on research and taking account of constraints such as time and resources.</p> <p>Use annotated sketches and exploding diagrams to develop and communicate their ideas.</p> <p>Create consistently sized pattern templates, measuring and marking to the nearest mm.</p> <p>Select the most appropriate material, tools and equipment for the task from a wide range of materials.</p> <p>Learn and use back-stitch.</p> <p>Follow procedures for safety.</p> <p>Evaluate the quality of the design, manufacture and fitness for purpose of their products and design, identifying the strengths and areas for development on their product.</p> <p>Research the needs and wants of the user and how recipes can be adapted to change the appearance, taste, texture and aroma of a dish.</p>	<p>Assessment - at the end of Year 5 children should be able to:</p> <p>Research information and analyse existing products then use this to develop a design criteria working with a partner.</p> <p>Use annotated sketches and cross-sectional drawings to develop and communicate ideas start to use exploding diagrams.</p> <p>Select and use the most appropriate materials, tools and equipment for a task.</p> <p>Design and make a product that combines several different materials or ingredients.</p> <p>Begin to develop a range of practical skills to create a product that includes a combination of electronics and mechanics.</p> <p>Understand and follow procedures for safety and hygiene.</p> <p>Start to use back stitch.</p> <p>Begin to demonstrate a range of cooking techniques following a recipe that uses a variety of ingredients.</p> <p>Evaluate the quality of design and fitness for purpose of the product produced</p>
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	Autumn	Spring	Summer
Year 6	Rolling Curriculum Year 1		
	Create a moving model of a Victorian Fairground ride that includes an electric circuit and motorised component.	Create and cook a meal that could have been cooked using ingredients that would have been used in WWII	Create a Protest banner using recycled fabric using a variety of different stiches and including joining two pieces of fabric recognising the need for seam allowance
	Rolling Curriculum Year 2		
	Creating a moving model of vehicle that could be used to transport books in the Houses of Learning that includes an electric circuit and motorised component.	Create and cook a meal that would be eaten in Greece.	Create an item of clothing that can be used to advertise Fair Trade using a variety of different stiches and including joining two pieces of fabric recognising the need for seam allowance.
	Rolling Curriculum Year 3		
	Create a moving model of a machine that could be used by the Romans to attack a fort that includes an electric circuit and a motorised component.	Create and cook a meal that could be eaten by King Arthur's knights on a crusade.	Create a flag from a country of your choice using and a variety of stitches and recognising the need for seam allowance.

Year 6	<p>Autumn</p> <p>Research information about the product being designed and use this to independently develop a design criteria.</p> <p>Generate innovative ideas drawing on research. Taking account of constraints such as time, resources and cost.</p> <p>Use annotated sketches, cross- sectional drawings and exploding diagrams to develop and communicate their ideas and explain, in detail, how particular parts of their products work. Start to use computer aided designs (CAD) to develop and communicate their ideas.</p> <p>Select and use the most appropriate material, tools and equipment for the task combining several different materials as needed, demonstrating resourcefulness when tackling practical problems.</p> <p>Follow procedures for safety.</p> <p>Make a product which uses innovative combination of electronics (or computing) and mechanics in product design.</p> <p>Cut materials with precision and refine the finish with appropriate tools such as sanding wood after cutting.</p> <p>Critically evaluate the quality of the design against their original specification, including; manufacture and fitness for purpose of their products and design, identifying the strengths and areas for development on their product.</p>	<p>Spring</p> <p>Research the needs and wants of the user.</p> <p>Investigate and analyse the ingredients in existing products and evaluate the different substances in them which are necessary for health – water, nutrients and fibre</p> <p>Investigate and analyse the cost and sustainability of the recipe.</p> <p>In small groups, generate innovative ideas for meals based on appearance, taste, texture and aroma.</p> <p>Create a menu taking account of constraints such as time, resources and money.</p> <p>Follow procedures for safety and hygiene including, the importance of correct storage and handling of ingredients using knowledge of microorganisms and where appropriate the use of a heat source.</p> <p>Follow a simple recipe including accurately weighing out to the nearest gram.</p> <p>Demonstrate a range of baking and cooking techniques.</p> <p>Identify the strengths and areas of development in their menu, for example, identifying the nutritional value of their dish. Evaluate the taste, aroma, appearance and texture of their dish against the recipe.</p>	<p>Summer</p> <p>Research information about the product being designed and use this to independently develop a design criteria.</p> <p>Generate innovative ideas drawing on research. Taking account of constraints such as time, resources and cost.</p> <p>Use annotated sketches, cross- sectional drawings and exploding diagrams to develop and communicate their ideas.</p> <p>Create consistently sized pattern templates, measuring and marking to the nearest mm.</p> <p>Select and use the most appropriate material, tools and equipment for the task combining several different materials as needed, demonstrating resourcefulness when tackling practical problems.</p> <p>Use a variety of stitches when creating the product including joining two or more pieces of fabric with seam allowance.</p> <p>Follow procedures for safety.</p> <p>Critically evaluate the quality of the design against their original specification, including; manufacture and fitness for purpose of their products and design, identifying the strengths and areas for development on their product.</p>	<p>Assessment - at the end of Year 6 children should be able to:</p> <p>Investigate and analyse existing products and use this to independently develop a design criteria.</p> <p>Use annotated sketches and cross-sectional drawings and exploding diagrams to develop and communicate ideas.</p> <p>Select and use the most appropriate materials, tools and equipment for a task demonstrating resourcefulness when tackling practical problems.</p> <p>Use a range of practical skills to design and create a product that includes a combination of electronics and mechanics.</p> <p>Use a variety of different stitches when joining fabric.</p> <p>Demonstrate a range of cooking techniques following a recipe that uses a variety of ingredients.</p> <p>Explain why we follow procedures for safety and hygiene.</p> <p>Critically evaluate the quality of design and fitness for purpose of the product produced explain how the produce could be improved.</p>
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