

# Whole School Design and Technology Curriculum

EYFS:

## **Expressive Arts and Design (Exploring and Using Media and Materials)**

Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

## **Expressive Arts and Design (Being Imaginative)**

Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories.

## **Physical Development (Moving and Handling)**

Children handle equipment and tools effectively, including pencils for writing.

	KS1	LKS2	UKS2
<b>Design</b>	<p><b>KS1 Design and Technology National Curriculum</b></p> <p>Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing.</p> <p>They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].</p> <p>Children design purposeful, functional, appealing products for themselves and other users based on design criteria.</p> <p>They generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.</p> <p>Children can:</p> <ul style="list-style-type: none"> <li>a use their knowledge of existing products and their own experience to help generate their ideas;</li> <li>b design products that have a purpose and are aimed at an intended user;</li> <li>c explain how their products will look and work through talking and simple annotated drawings;</li> <li>d design models using simple computing software;</li> <li>e plan and test ideas using templates and mock-ups;</li> <li>f understand and follow simple design criteria;</li> <li>g work in a range of relevant contexts, for example imaginary, story-based, home, school and the wider environment.</li> </ul>	<p><b>KS2 Design and Technology National Curriculum</b></p> <p>Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing.</p> <p>They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].</p> <p>Children use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.</p> <p>They generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design.</p> <p>Children can:</p> <ul style="list-style-type: none"> <li>a identify the design features of their products that will appeal to intended customers;</li> <li>b use their knowledge of a broad range of existing products to help generate their ideas;</li> <li>c design innovative and appealing products that have a clear purpose and are aimed at a specific user;</li> <li>d explain how particular parts of their products work;</li> <li>e use annotated sketches and cross-sectional drawings to develop and communicate their ideas;</li> <li>f when designing, explore different initial ideas before coming up with a final design;</li> <li>g when planning, start to explain their choice of materials and components including function and aesthetics;</li> <li>h test ideas out through using prototypes;</li> <li>i use computer-aided design to develop and communicate their ideas (see note on p. 1);</li> <li>j develop and follow simple design criteria;</li> <li>k work in a broader range of relevant contexts, for example entertainment, the home, school, leisure, food industry and the wider environment.</li> </ul>	<p><b>KS2 Design and Technology National Curriculum</b></p> <p>Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing.</p> <p>They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].</p> <p>Children use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.</p> <p>They generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design.</p> <p>Children can:</p> <ul style="list-style-type: none"> <li>a use research to inform and develop detailed design criteria to inform the design of innovative, functional and appealing products that are fit for purpose and aimed at a target market;</li> <li>b use their knowledge of a broad range of existing products to help generate their ideas;</li> <li>c design products that have a clear purpose and indicate the design features of their products that will appeal to the intended user;</li> <li>d explain how particular parts of their products work;</li> <li>e use annotated sketches, cross-sectional drawings and exploded diagrams (possibly including computer-aided design) to develop and communicate their ideas;</li> <li>f generate a range of design ideas and clearly communicate final designs;</li> <li>g consider the availability and costings of resources when planning out designs;</li> <li>h work in a broad range of relevant contexts, for example conservation, the home, school, leisure, culture, enterprise, industry and the wider environment.</li> </ul>

**KS1 Design and Technology National Curriculum**

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of making.

Children select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing].

They select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.

Children can:

**Planning**

- a with support, follow a simple plan or recipe;
- b begin to select from a range of hand tools and equipment, such as scissors, graters, zesters, safe knives, juicer;
- c select from a range of materials, textiles and components according to their characteristics;

**Practical skills and techniques**

- d learn to use hand tools and kitchen equipment safely and appropriately and learn to follow hygiene procedures;
- e use a range of materials and components, including textiles and food ingredients;
- f with help, measure and mark out;
- g cut, shape and score materials with some accuracy;
- h assemble, join and combine materials, components or ingredients;
- i demonstrate how to cut, shape and join fabric to make a simple product;
- j manipulate fabrics in simple ways to create the desired effect;
- k use a basic running stitch;
- l cut, peel and grate ingredients, including measuring and weighing ingredients using measuring cups;
- m begin to use simple finishing techniques to improve the appearance of their product, such as adding simple decorations.

**KS2 Design and Technology National Curriculum**

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of making.

Children select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] accurately.

They select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.

Children can:

**Plan**

- a with growing confidence, carefully select from a range of tools and equipment, explaining their choices;
- b select from a range of materials and components according to their functional properties and aesthetic qualities;
- c place the main stages of making in a systematic order;

**Practical skills and techniques**

- d learn to use a range of tools and equipment safely, appropriately and accurately and learn to follow hygiene procedures;
- e use a wider range of materials and components, including construction materials and kits, textiles and mechanical and electrical components;
- f with growing independence, measure and mark out to the nearest cm and millimetre;
- g cut, shape and score materials with some degree of accuracy;
- h assemble, join and combine material and components with some degree of accuracy;
- i demonstrate how to measure, cut, shape and join fabric with some accuracy to make a simple product;
- j join textiles with an appropriate sewing technique;
- k begin to select and use different and appropriate finishing techniques to improve the appearance of a product such as hemming, tie-dye, fabric paints and digital graphics.

**KS2 Design and Technology National Curriculum**

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of making.

Children select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately.

They select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.

Children can:

**Planning**

- a independently plan by suggesting what to do next;
- b with growing confidence, select from a wide range of tools and equipment, explaining their choices;
- c select from a range of materials and components according to their functional properties and aesthetic qualities;
- d create step-by-step plans as a guide to making;

**Practical skills and techniques**

- e learn to use a range of tools and equipment safely and appropriately and learn to follow hygiene procedures;
- f independently take exact measurements and mark out, to within 1 millimetre;
- g use a full range of materials and components, including construction materials and kits, textiles, and mechanical components;
- h cut a range of materials with precision and accuracy;
- i shape and score materials with precision and accuracy;
- j assemble, join and combine materials and components with accuracy;
- k demonstrate how to measure, make a seam allowance, tape, pin, cut, shape and join fabric with precision to make a more complex product;
- l join textiles using a greater variety of stitches, such as backstitch, whip stitch, blanket stitch;
- m refine the finish using techniques to improve the appearance of their product, such as sanding or a more precise scissor cut after roughly cutting out a shape.

Evaluate	<p><b>KS1 Design and Technology National Curriculum</b></p> <p>Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making.</p> <p>Children explore and evaluate a range of existing products. They evaluate their ideas and products against design criteria. Children can:</p> <ul style="list-style-type: none"> <li>a explore and evaluate existing products mainly through discussions, comparisons and simple written evaluations;</li> <li>b explain positives and things to improve for existing products;</li> <li>c explore what materials products are made from;</li> <li>d talk about their design ideas and what they are making;</li> <li>e as they work, start to identify strengths and possible changes they might make to refine their existing design;</li> <li>f evaluate their products and ideas against their simple design criteria;</li> <li>g start to understand that the iterative process sometimes involves repeating different stages of the process.</li> </ul>	<p><b>KS2 Design and Technology National Curriculum</b></p> <p>Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making.</p> <p>Children investigate and analyse a range of existing products. They evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p> <p>They understand how key events and individuals in design and technology have helped shape the world.</p> <p>Children can:</p> <ul style="list-style-type: none"> <li>a explore and evaluate existing products, explaining the purpose of the product and whether it is designed well to meet the intended purpose;</li> <li>b explore what materials/ingredients products are made from and suggest reasons for this;</li> <li>c consider their design criteria as they make progress and are willing to alter their plans, sometimes considering the views of others if this helps them to improve their product;</li> <li>d evaluate their product against their original design criteria;</li> <li>e evaluate the key events, including technological developments, and designs of individuals in design and technology that have helped shape the world.</li> </ul>	<p><b>KS2 Design and Technology National Curriculum</b></p> <p>Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making.</p> <p>Children investigate and analyse a range of existing products. They evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p> <p>They understand how key events and individuals in design and technology have helped shape the world.</p> <p>Children can:</p> <ul style="list-style-type: none"> <li>a complete detailed competitor analysis of other products on the market;</li> <li>b critically evaluate the quality of design, manufacture and fitness for purpose of products as they design and make;</li> <li>c evaluate their ideas and products against the original design criteria, making changes as needed.</li> </ul>
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**KS1 Design and Technology National Curriculum**

Children build structures, exploring how they can be made stronger, stiffer and more stable.

They explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

Children can:

- a build simple structures, exploring how they can be made stronger, stiffer and more stable;
- b talk about and start to understand the simple working characteristics of materials and components;
- c explore and create products using mechanisms, such as levers, sliders and wheels.

**KS2 Design and Technology National Curriculum**

Children apply their understanding of how to strengthen, stiffen and reinforce more complex structures.

They understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages].

They understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors].

They apply their understanding of computing to program, monitor and control their products.

Children can:

- a understand that materials have both functional properties and aesthetic qualities;
- b apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products;
- c understand and demonstrate how mechanical and electrical systems have an input and output process;
- d make and represent simple electrical circuits, such as a series and parallel, and components to create functional products;
- e explain how mechanical systems such as levers and linkages create movement;
- f use mechanical systems in their products.

**KS2 Design and Technology National Curriculum**

Children apply their understanding of how to strengthen, stiffen and reinforce more complex structures.

They understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages].

They understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors].

They apply their understanding of computing to program, monitor and control their products.

Children can:

- a apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products;
- b understand and demonstrate that mechanical and electrical systems have an input, process and output;
- c explain how mechanical systems, such as cams, create movement and use mechanical systems in their products;
- d apply their understanding of computing to program, monitor and control a product.

**KS1 Design and Technology National Curriculum**

Children use the basic principles of a healthy and varied diet to prepare dishes.

They understand where food comes from.

Children can:

- a explain where in the world different foods originate from;
- b understand that all food comes from plants or animals;
- c understand that food has to be farmed, grown elsewhere (e.g. home) or caught;
- d name and sort foods into the five groups in the Eatwell Guide;
- e understand that everyone should eat at least five portions of fruit and vegetables every day and start to explain why;
- f use what they know about the Eatwell Guide to design and prepare dishes.

**KS2 Design and Technology National Curriculum**

Children understand and apply the principles of a healthy and varied diet.

They prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.

They understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

Children can:

- a start to know when, where and how food is grown (such as herbs, tomatoes and strawberries) in the UK, Europe and the wider world;
- b understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically;
- c with support, use a heat source to cook ingredients showing awareness of the need to control the temperature of the hob and/or oven;
- d use a range of techniques such as mashing, whisking, crushing, grating, cutting, kneading and baking;
- e explain that a healthy diet is made up of a variety and balance of different food and drink, as represented in the Eatwell Guide and be able to apply these principles when planning and cooking dishes;
- f understand that to be active and healthy, nutritious food and drink are needed to provide energy for the body;
- g prepare ingredients using appropriate cooking utensils;
- h measure and weigh ingredients to the nearest gram and millilitre;
- i start to independently follow a recipe;
- j start to understand seasonality.

**KS2 Design and Technology National Curriculum**

Children understand and apply the principles of a healthy and varied diet.

They prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.

They understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

Children can:

- a know, explain and give examples of food that is grown (such as pears, wheat and potatoes), reared (such as poultry and cattle) and caught (such as fish) in the UK, Europe and the wider world;
- b understand about seasonality, how this may affect the food availability and plan recipes according to seasonality;
- c understand that food is processed into ingredients that can be eaten or used in cooking;
- d demonstrate how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source;
- e demonstrate how to use a range of cooking techniques, such as griddling, grilling, frying and boiling;
- f explain that foods contain different substances, such as protein, that are needed for health and be able to apply these principles when planning and preparing dishes;
- g adapt and refine recipes by adding or substituting one or more ingredients to change the appearance, taste, texture and aroma;
- h alter methods, cooking times and/or temperatures; measure accurately and calculate ratios of ingredients to scale up or down from a recipe;
- j independently follow a recipe.

	KS1 Cycle A						KS1 Cycle B						KS2 Cycle A						KS2 Cycle B					
	<b>Lest We Forget:</b> No place like home / Remembrance	<b>Staying Alive :</b> Nurturing Nurses	<b>No Stone Left Unturned:</b> Great Explorers / Beside the Seaside	<b>Best of British?:</b> Famous Brits / Gunpowder Plot	<b>World on a Plate:</b> Beautiful India? / Living Off the Land	<b>All the World a Stage:</b> Cinderella / Fairy Tales of the World	<b>Our DNA:</b> Incredible Me / Towers and Turrets: Norman Conquest	<b>Plague:</b> Pirates / The Great Fire of London	<b>Travel Through Time:</b> Travel and Transport	<b>Industrial Age:</b> Queen Victoria and Queen Elizabeth	<b>Treasure Hunters:</b> Special Toys through Time / Superheroes Rule	<b>Hooray for Habitats:</b> Different Animals / Jack and the Beanstalk	<b>Lest We Forget:</b> World Wars	<b>Staying Alive:</b> Survival	<b>No Stone Left Unturned:</b> Rocks	<b>Best of British?:</b> Romans	<b>World on a Plate:</b> Foods from around the World	<b>All the World a Stage:</b> Greeks / Olympics	<b>Our DNA:</b> Vikings / Anglo Saxons	<b>Plague:</b> Eyam and the Plague	<b>Travel Through Time:</b> Space	<b>Industrial Age:</b> The Industrial Revolution (Local History)	<b>Treasure Hunters:</b> Egyptians	<b>Hooray for Habitats:</b> Rainforests
<b>Design</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓		✓	✓	✓	✓	✓	
<b>Make</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		
<b>Evaluate</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓		✓				✓	✓		
<b>Technical Knowledge</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓				✓	✓	✓	
<b>Cooking and Nutrition</b>		✓			✓		✓				✓		✓			✓		✓					✓	

	KS1	LKS2	UKS2
Lest We Forget	<p><b>There's No Place Like Home</b></p> <p>Visit DFS and follow given briefs to choose furniture suitable for different people, including colours, fabrics, styles etc.</p> <p>Design a room for our own house and create it in a shoe box using other recycled materials.</p> <p>Evaluate our rooms- how well do they do what we wanted them to do? What would we do differently to improve them?</p>	<p>Study the artist Georgia O'Keefe and evaluate how her style could be applied to a lantern design. Share examples.</p> <p>Using their knowledge of a range of products, complete their final design for their lantern.</p> <p>Assemble and combine materials to make their lantern.</p> <p>Electrics – create a circuit for the lanterns to produce a functional product.</p>	<p>Study the artist Georgia O'Keefe and use research to inform how her style could be applied to a lantern design.</p> <p>Using their knowledge of a range of products, complete their final design for their lantern indicating their design features and clear purpose.</p> <p>Assemble and combine materials with precision to make their lantern.</p>
Staying Alive	<p><b>Nurturing Nurses</b></p> <p>Look at a range of prepared sandwiches and identify the things that grow and the things from other food groups. Why is fresh food important in our diet? What tastes do we like in the sandwiches and which do we not?</p> <p>In groups, from a range of choices and add something from other food groups, choose ingredients for their own salad. Use a range of tools to chop, grate, stir their ingredients to create a sandwich of their own.</p> <p>Evaluate their sandwich and say what they liked/ would do to improve it. Make a recipe card to take home so they can show others how to recreate it.</p>	<p>If I were an engineer what would I do – take part in competition each year.</p> <p>Explore initial ideas.</p> <p>Plan their own product which appeals to intended customer.</p> <p>Design a product which is innovative and designed at a specific user.</p> <p>Explain how parts of their product work and use annotated sketches and cross-sectional drawings to explain their product.</p> <p>When designing their shelter, consider their choice of materials including function and aesthetics.</p> <p>Develop and follow simple design criteria.</p> <p>Assemble, join and combine materials and components with some degree of accuracy.</p>	<p>If I were an engineer what would I do – take part in competition each year.</p> <p>Explore initial ideas. Use research to aid their ideas of an innovative, functional and appealing product which are fit for purpose and aimed at a target market.</p> <p>Explain how parts of their product work and use annotated sketches, cross-sectional drawings and exploded diagrams to explain their product.</p> <p>When designing their shelter, consider their choice of materials including function and aesthetics.</p> <p>Develop and follow simple design criteria.</p> <p>Assemble, join and combine materials and components with accuracy.</p> <p>Research and make survival food.</p>



		Research and make survival food.	
No Stone Left Unturned	<p><b>Beside the Seaside</b></p> <p>Using wood, card and paper, follow instructions to create a free-standing bathing machines which can then be decorated and personalized.</p> <p>Look at a range of vehicles that use axels and design and create our own to add to the bathing machines.</p> <p>Evaluate our product, both structurally and aesthetically.</p> <p><b>Great Explorers</b></p> <p>Look at the pictures of an explorer's ship. Compare them to ships now and use the health and safety cards to think about which are likely to be an issue for which ship.</p> <p>Experiment with a variety of objects made from different materials to find our which we would recommend for making a boat.</p> <p>Create and float our own boats and evaluate them. Which would we feel safest in? Which is best equipped for exploring?</p>	<p>Make roundhouses – with growing independence measure and mark out to the nearest cm and mm.</p> <p>Learn to use a range of equipment safely, appropriately and accurately.</p> <p>Cut and shape materials with some degree of accuracy.</p>	<p>Make roundhouses – independently take exact measurements and mark out to within 1 mm</p> <p>Learn to use a range of equipment safely and accurately.</p> <p>Cut a range of materials with precision and accuracy.</p>
Best of British?	<b>The Best of British</b>	Making aqueduct and Roman arches – explore and evaluate existing products explaining purpose and does it meet the intended purpose. Key events and individuals in DT have helped shape the world.	<p>Making aqueduct and Roman arches - key events and individuals in DT have helped shape the world.</p> <p>Use existing kits to build Roman arches.</p>

<p>Look at lots of British monuments. What are the shapes, materials, sizes, purposes? Which do we like best?</p> <p>In the plantation, use natural materials to design and create our own versions of some of these structures.</p> <p>Which of the structures do we think are most effective? Do we like them better in natural materials or not? Why?</p> <p><b>The Gunpowder Plot</b></p> <p>Seasonal addition...</p> <p>Talk about the changing seasons and challenges that brings for animals.</p> <p>Use lard, cheese, seeds, nuts etc to design and create our own Winter bird feeders, moulded into a container with string to hang them.</p> <p>Hang our feeders around school or in the plantation and monitor to see who is using them. Are the birds accessing them? Are other animals using them? Is that okay or could we redesign to make it birds only?</p>	<p>Use existing kits to build Roman arches.</p>	<p>Boat making in Science – using a range of materials the children decide what they will use to make their boat the most streamlined and travel quickest across the water.</p> <p>Understand that materials have both functional properties and aesthetic qualities.</p> <p>Evaluate the fitness for purpose of the boats after the racing.</p> <p>Evaluate their boat against the original design criteria making changes as needed.</p>
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World on a Plate	<p><b>Living Off the Land</b></p> <p>Look at why we need bird scarers and how they work. (Refer to our feeders and talk about animal management!) View pictures of examples.</p> <p>Design and make our own using wooden spoons and adding features to them- things to make them bigger/ more human, things to make them shiny/ make a noise.</p> <p>Put them in the school grounds/ take them home and monitor them to gauge their effectiveness in keeping the birds away.</p>	<p>Start to know when, where and how food is grown in the UK, Europe and the wider world so they can plan their menus for the food fair accordingly.</p> <p>Start to understand seasonality and consider this when planning recipes.</p> <p>Apply principals of a balanced diet when planning.</p> <p>If I were an engineer what would I do – take part in competition each year.</p> <p>Explore initial ideas.</p> <p>Plan their own product which appeals to intended customer.</p> <p>Design a product which is innovative and designed at a specific user.</p> <p>Explain how parts of their product work and use annotated sketches and cross-sectional drawings to explain their product.</p>	<p>Know, explain and give examples of food that is grown, reared and caught in the UK, Europe and the wider world so they can plan their menus for the food fair accordingly.</p> <p>Understand about seasonality, how this may affect the food availability and plan recipes according to seasonality.</p> <p>Check the food during the preparation process for taste, aroma etc. and alter accordingly.</p> <p>Apply principals of a balanced diet when planning.</p> <p>If I were an engineer what would I do – take part in competition each year.</p> <p>Explore initial ideas. Use research to aid their ideas of an innovative, functional and appealing product which are fit for purpose and aimed at a target market.</p> <p>Explain how parts of their product work and use annotated sketches, cross-sectional drawings and exploded diagrams to explain their product.</p>
All the World a Stage	<p><b>Fairy Tales of the World</b></p> <p>Look at a range of books with flaps, sliders and levers. Talk about why they are use and what makes them effective.</p> <p>Follow instructions to make an example of each type of mechanism.</p> <p>Design and create our own short book using at least 2 of the mechanisms and create by cutting, scoring, folding paper or card.</p>	<p>Greek theatre masks – research Greek theatre and the use of theatre masks.</p> <p>Explore initial ideas before coming up with a final design.</p> <p>Cut, shape and score materials with some degree of accuracy.</p> <p>Assemble, join and combine materials with some degree of accuracy.</p> <p>Strengthen, stiffen and reinforce their masks.</p> <p>Alter their plan considering the views of others.</p>	<p>Greek theatre masks – research Greek theatre and the use of theatre masks.</p> <p>Generate a range of design ideas and clearly communicate final design.</p> <p>Shape and score materials with precision and accuracy.</p> <p>Assemble, join and combine materials with accuracy.</p> <p>Strengthen, stiffen and reinforce their masks.</p> <p>Critically evaluate their own products as they work and at the end of the process.</p>

	<p>Share and evaluate our books and compare them to the brief. What could we do to improve them? What do we already like about them?</p>		
<p>Our DNA</p>	<p><b>Incredible Me!</b></p> <p>Share a range of pizza menus and look at the toppings. How many of them fit into the food groups we know? Which are our favourites? Do different people have different needs/ preferences? What would the menu look like if we all like the same?</p> <p>In groups of 4, split a pizza base design into quarters and each add, from a selection of choices, ones each person would like. What can we substitute with, eg for someone vegetarian/ gluten intolerant to make sure they stay healthy?</p> <p>Create and share our pizzas using kitchen equipment safely. Would anyone like to share/ try something new? Have you discovered that you like something new?</p> <p><b>Towers and Turrets</b></p> <p>Demonstrate the trebuchet with lolly sticks and spoons and create our own.</p>	<p>Viking food making including bread, butter and jam – prepare ingredients using different cooking utensils. Use a range of techniques (see above). Measure and weigh ingredients to the nearest gram and milliliter.</p>	<p>Viking bread – use a range of cooking techniques (see above). Understand that food is processed into ingredients that can be used or eaten in cooking. Independently follow a recipe.</p>

	<p>Show a range of equipment they will have access to: art straws, wooden sticks, wooden construction DT equipment, balsawood, card, rubber bands, junk modelling equipment, wheels, etc. Explain that when they draw their design they should label the parts so they know what each part will be made from.. Explain that their catapult should stand-alone and be able to fling a marshmallow. What will make it more stable?</p> <p>Create our designs. At the end we will have a competition to test whose catapult can fling the stone furthest! Which designs worked best and why? What could you do to improve it?</p>		
Plague	<p><b>Pirates</b></p> <p>Look at a range of different puppets and how they work, especially the features of hand puppets.</p> <p>Design our own pirate puppet using a basic outline and adding the face, hat, clothing etc and any decorations- earring, eye patch.</p> <p>Having used fabric, cutting and stitching techniques and decorated the puppets (see Art ), evaluate our designs for practical and aesthetic effects.</p> <p><b>Great Fire of London</b></p> <p>Look at the monument to the Fire and think about why people wanted it (link to war memorial).</p> <p>Design our own monument to the Fire, using a pattern the same size as our baking sheet for the pieces. Bake gingerbread in the correct sizes and use icing to join them. Decorate.</p>	<p>Plague bags – developing and following a simple design criteria.</p> <p>Demonstrate how to measure, cut, shape and join fabric with some accuracy to make a simple product. Join textiles with an appropriate sewing technique. Children to decide on finishing technique e.g. embroidery, fabric paint.</p> <p>If I were an engineer what would I do – take part in competition each year.</p> <p>Explore initial ideas.</p> <p>Plan their own product which appeals to intended customer.</p> <p>Design a product which is innovative and designed at a specific user.</p> <p>Explain how parts of their product work and use annotated sketches and cross-sectional drawings to explain their product.</p>	<p>Plague bags - demonstrate how to measure, make a seam allowance, tape, pin, cut, shape and join fabric with precision to make a more complex product.</p> <p>Join textile with a greater variety of stitches.</p> <p>If I were an engineer what would I do – take part in competition each year.</p> <p>Explore initial ideas. Use research to aid their ideas of an innovative, functional and appealing product which are fit for purpose and aimed at a target market.</p> <p>Explain how parts of their product work and use annotated sketches, cross-sectional drawings and exploded diagrams to explain their product.</p>

	<p>Evaluate the constructions- were they strong enough? What was difficult about the designs and joining the pieces? What went well? ... Why would this not be so good as a permanent monument?</p>		
Travel Through Time	<p><b>Travel and Transport</b></p> <p>Find out about the importance of the invention of the wheel and how wheels work attached to axels.</p> <p><a href="https://www.youtube.com/watch?v=ndT35aqDfAQ">https://www.youtube.com/watch?v=ndT35aqDfAQ</a></p> <p>Look at the difference in wheels for different vehicles according to their purpose eg pick-up trucks or police cars.</p> <p>Design and create our vehicles using DT and junk modelling equipment. Evaluate them and say how close they came to our design brief. What worked/ didn't? What would improve them?</p>	<p>Design and make their own rockets which can leave the ground – use their knowledge of a broad range of existing products to help generate their ideas. When designing, explore initial different ideas before coming up with a final design.</p> <p>Select from a range of materials and components according to their functional properties and aesthetic qualities.</p> <p>Assemble, join and combine materials and components with accuracy, including adding components to make the rocket leave the ground e.g. air pump, chemical reaction (bicarb and vinegar)</p>	<p>Design and make their own rockets which can leave the ground – use their knowledge of a broad range of existing products to help generate their ideas. Generate a range of design ideas and clearly communicate final designs.</p> <p>Select from a range of materials and components according to their functional properties and aesthetic qualities.</p> <p>Assemble, join and combine materials and components with accuracy, including adding components to make the rocket leave the ground e.g. air pump, chemical reaction (bicarb and vinegar)</p>
Industrial Age	<p><b>Queens Victoria and Elizabeth</b></p> <p>Learn the legend of Babushka and the three kings. Follow instructions to make a galette des rois with a hidden prize making someone king/ queen for the day.</p> <p>Follow instructions for two types of sourdough- which works best? What are our criteria?</p> <p>Design and make sourdough decorations as gifts for Babushka to leave on her travels. How will you colour them? Attach decorations? How will they hang? Evaluate our decorations together against our criteria.</p>	<p>Design and build their own bridges - explore and evaluate existing products explaining purpose and does it meet the intended purpose. Key events and individuals in DT have helped shape the world. Develop and follow different design criteria.</p> <p>Assemble, join and combine materials with some degree of accuracy.</p> <p>Strengthen, stiffen and reinforce their bridges. Alter their plan considering the views of others. Select from a range of materials and components according to their functional properties and aesthetic qualities</p> <p>Design and make their own items to sell at the Banardo's sale – use their knowledge of a broad</p>	<p>Design and build their own bridges - key events and individuals in DT have helped shape the world. Understand that materials have both functional properties and aesthetic qualities.</p> <p>Shape and score materials with precision and accuracy.</p> <p>Assemble, join and combine materials with accuracy.</p> <p>Strengthen, stiffen and reinforce their bridges.</p> <p>Critically evaluate their own products as they work and at the end of the process.</p> <p>Design and make their own items to sell at the Banardo's sale – use their knowledge of a broad range of existing products to help generate their ideas.</p>

		<p>range of existing products to help generate their ideas.</p> <p>Select from a range of materials and components according to their functional properties and aesthetic qualities</p>	<p>Select from a range of materials and components according to their functional properties and aesthetic qualities</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Treasure Hunters</p>	<p><b>Toys Though Time</b></p> <p>(RE link to <b>Special Places</b>) Think about what features we value in a special place. What do we value about the plantation? How could we make that a space where people feel more peaceful, relaxed, part of their surroundings etc?</p> <p>Use a range of natural materials to decorate the plantation, including use of tools, paints etc.</p> <p>Spend time in the plantation, enjoying the decorations. How are we feeling? Create an invitation for the parish magazine to include our community</p> <p><b>Superheroes Rule</b></p> <p>Look at a range of books with flaps, sliders and levers. Talk about why they are use and what makes them effective.</p> <p>Follow instructions to make an example of each type of mechanism.</p> <p>Design and create our own short book using at least 2 of the mechanisms and create by cutting, scoring, folding paper or card.</p>	<p>Look at the design of the shaduf and what it is used for and then make one using lego.</p> <p>Design their own shaduf using their knowledge of a range of materials and components.</p> <p>Assemble, join and combine materials with some degree of accuracy while making their shaduf.</p> <p>Strengthen, stiffen and reinforce their shadufs.</p> <p>Use mechanical systems in their designs e.g. levers, cams, pulleys</p> <p>Alter their plan considering the views of others.</p> <p>If I were an engineer what would I do – take part in competition each year.</p> <p>Explore initial ideas.</p> <p>Plan their own product which appeals to intended customer.</p> <p>Design a product which is innovative and designed at a specific user.</p> <p>Explain how parts of their product work and use annotated sketches and cross-sectional drawings to explain their product.</p>	<p>Look at the design of the shaduf and what it is used for and then make one using lego.</p> <p>Design their own shaduf using their knowledge of a range of materials and components.</p> <p>Strengthen, stiffen and reinforce their shadufs.</p> <p>Use mechanical systems in their designs e.g. levers, cams, pulleys</p> <p>Critically evaluate their own products as they work and at the end of the process.</p> <p>If I were an engineer what would I do – take part in competition each year.</p> <p>Explore initial ideas. Use research to aid their ideas of an innovative, functional and appealing product which are fit for purpose and aimed at a target market.</p> <p>Explain how parts of their product work and use annotated sketches, cross-sectional drawings and exploded diagrams to explain their product.</p>

	<p>Share and evaluate our books and compare them to the brief. What could we do to improve them? What do we already like about them?</p>		
<p>Hooray for Habitats</p>	<p><b>Jack and the Beanstalk</b></p> <p>Look at a range of prepared salads and identify the things that grow and the things from other food groups. Why is fresh salad/ vegetables important in our diet? What tastes do we like in the salads and which do we not?</p> <p>In groups, from a range of choices in each food group, choose ingredients for their own salad. Use a range of tools to chop, grate, stir their ingredients to create a salad of their own.</p> <p>Evaluate their salad and say what they liked/ would do to improve it. Make a recipe card to take home so they can show others how to recreate it.</p>	<p>Fair trade cake sale - prepare ingredients using different cooking utensils. Use a range of techniques (see above). Measure and weigh ingredients to the nearest gram and milliliter. Start to independently follow a recipe.</p> <p>Rainforest in a box – research rainforests and the different layers so they know what will go in each layer.</p> <p>Generate a range of design ideas and clearly communicate final design.</p> <p>Use mechanical systems in their designs e.g. levers, cams, pulleys</p>	<p>Rainforest in a box – research rainforests and the different layers so they know what will go in each layer.</p> <p>Generate a range of design ideas and clearly communicate final design.</p> <p>Use mechanical systems in their designs e.g. levers, cams, pulleys</p> <p>Fair trade cake sale – use a range of cooking techniques (see above). Understand that food is processed into ingredients that can be used or eaten in cooking. Independently follow a recipe. Adapt and refine recipes. Alter methods, cooking times and temperatures as required.</p>