

Design and Technology at Fleecefield - Progression Map 2022.23

EYFS

The ELGs stated link with DT:

Personal, Social and Emotional Development

Managing Self ELG (ELG 4)

Children at the expected level of development will:

- Be confident to try new activities and show independence, resilience and perseverance in the face of challenge;
- Explain the reasons for rules, know right from wrong and try to behave accordingly;
- Manage their own basic hygiene and personal needs, including dressing, going to the toilet, and understanding the importance of healthy food choices.

Physical Development

Fine Motor Skills ELG (ELG 7):

Children at the expected level of development will:

- Hold a pencil effectively in preparation for fluent writing
– using the tripod grip in almost all cases; - Use a range of small tools, including scissors, paint brushes and cutlery;
- Begin to show accuracy and care when drawing.

Expressive Arts and Design

Creating with Materials ELG (ELG 16)

Children at the expected level of development will:

- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form, and function;
- Share their creations, explaining the process they have used;
- Make use of props and materials when role playing characters in narratives and stories.

Being Imaginative and Expressive ELG (ELG 17)

Children at the expected level of development will:

- Invent, adapt and recount narratives and stories with peers and their teacher;
- Sing a range of well-known nursery rhymes and songs; - Perform songs, rhymes, poems and stories with others, and –
-when appropriate, try to move in time with music.

	Autumn	Spring	Summer
EYFS Evaluation *Dismantle, examine, talk about existing objects/structures. *Consider and manage some	Children to create and construct using a range of resources and junk modelling materials. Children to mark make using chunky felt tip pens, pencils, colouring pencils, chalk	Children to create and construct using a range of resources and junk modelling materials. Children to mark make using felt tip pens, pencils, colouring pencils, chalk and	Children to create and construct independently, following their own interests whilst demonstrating more skills of precision through the use of fine felt tip pens, pencils, colouring


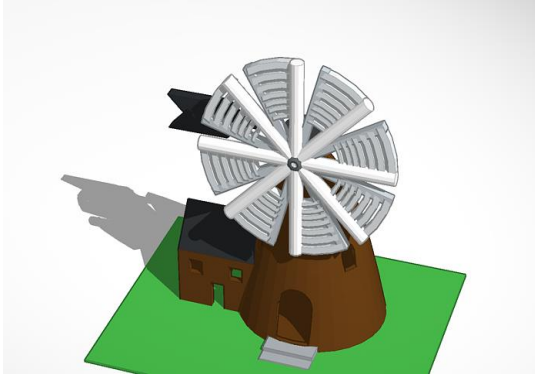

<p>risks. *Talk about how things work *Look at similarities and differences between existing objects / materials / tools. *Show an interest in technological toys.</p>	<p>and paintbrushes.</p>	<p>paintbrushes.</p>	<p>pencils, chalk and paintbrushes. Healthy balanced food and diet by making a healthy snack (fruit or vegetable) with an emphasis on safety and hygiene.</p>
<p>KS1 National Curriculum</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. They should work in a range of relevant contexts. When designing and making, pupil should be taught to:</p> <ul style="list-style-type: none"> • design purposeful, functional, appealing products for themselves and other users based on design criteria • generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. • select from and use a range of tools and equipment to perform practical tasks [e.g., cutting, shaping, joining and finishing] • select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics • explore and evaluate a range of existing products • evaluate their ideas and products against design criteria • build structures, exploring how they can be made stronger, stiffer and more stable • explore and use mechanisms [e.g., levers, sliders, wheels and axles] in their products 		
<p>Year 1 Evaluation: *Talk about the work, linking it to the task instructions. *Talk about existing products considering: use, materials, how they work, audience, where they might be used. *Talk about existing products, and say what is and isn't good . *Talk about things that other people have made. *Begin to talk about what could</p>	<p>Mechanical Structures (Sliders) ✓ Create products using levers Materials & Construction ✓ Cut materials safely using tools provided. ✓ Measure and mark out to the nearest centimetre. ✓ Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling). ✓ Demonstrate a range of joining techniques (such as gluing combining materials to strengthen). ✓ Use</p>	<p>Cooking & Nutrition (Healthy Kebabs) ✓ Cut, peel or grate ingredients safely and hygienically. ✓ Measure or weigh using measuring cups or electronic scales. ✓ Assemble ingredients.</p>	<p>Textiles (Puppet) ✓ Shape textiles using templates. ✓ Join textiles using running stitch. ✓ Colour and decorate textiles using a number of techniques (such as adding yarns, sequins or printing).</p>

make the product better.	materials to practise gluing materials to make and strengthen products.		
<p>Year 2 Evaluation</p> <ul style="list-style-type: none"> * Describe what went well, thinking about design criteria. * Talk about existing products considering: use, materials, how they work, audience, where they might be used; express personal opinion. *Evaluate how good existing products are. *Talk about what would be done differently if the task would be done again and why. 	<p>Cooking & Nutrition (Pumpkin soup)</p> <ul style="list-style-type: none"> ✓ Cut, peel or grate ingredients safely and hygienically. ✓ Measure or weigh using measuring cups or electronic scales. ✓ Assemble or cook ingredients. 	<p>Structures</p> <p>End of product: Tudor houses.</p> <p>Materials & Construction</p> <ul style="list-style-type: none"> ✓ Cut materials safely using tools provided. ✓ Measure and mark out to the nearest centimetre. ✓ Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling). ✓ Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen). ✓ Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products 	<p>Textiles</p> <p>End product: Bunting for sports day.</p> <ul style="list-style-type: none"> ✓ Understand the need for an overlap allowance. ✓ Join textiles with appropriate stitching. ✓ Select the most appropriate techniques to decorate textiles
<p>KS2 National Curriculum</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. They should work in a range of relevant contexts. When designing and making, pupils should be taught to:</p> <ul style="list-style-type: none"> • 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 • generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design • select from and use a wider range of tools and equipment to perform practical tasks [e.g. cutting, shaping, joining and finishing], accurately • 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 • investigate and analyse a range of existing products • evaluate their ideas and products against their own design criteria and consider the views of others to improve their work • understand how key events and individuals in design and technology have helped shape the world • apply their understanding of how to strengthen, stiffen and reinforce more complex structures 		

	<ul style="list-style-type: none"> • understand and use mechanical systems in their products [e.g. gears, pulleys, cams, levers and linkages] • understand and use electrical systems in their products [e.g. series circuits incorporating switches, bulbs, buzzers and motors] • apply their understanding of computing to program, monitor and control their product 		
<p>Year 3 Evaluation</p> <ul style="list-style-type: none"> * Look at design criteria while designing and making. *use design criteria to evaluate the finished product. * Say what would change to make design better. *Begin to evaluate existing products, considering: how well they have been made, materials, whether they work, how they have been made, fit for purpose. * Begin to understand by whom, when and where products were designed. * Learn about some inventors/designers/engineers/chefs/manufacturers of groundbreaking products 	<p>Cooking and nutrition End product: Healthy and seasonal sandwiches.</p> <ul style="list-style-type: none"> ✓ Prepare ingredients hygienically using appropriate utensils. ✓ Measure ingredients to the nearest gram accurately. ✓ Follow a recipe. ✓ Assemble or cook ingredients. 	<p>Textiles End product: Pencil cases.</p> <ul style="list-style-type: none"> ✓ Understand the need for a seam allowance. ✓ Understand the need for a fastener. ✓ Join textiles with appropriate stitching. ✓ Select the most appropriate techniques to decorate textiles. 	<p>Structures End product: Mini greenhouses. Materials & Construction</p> <ul style="list-style-type: none"> ✓ Cut materials accurately and safely by selecting appropriate tools. ✓ Measure and mark out to the nearest centimetre. ✓ Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs). ✓ Select appropriate joining techniques. ✓ Choose suitable techniques to construct products or to repair items. ✓ Strengthen materials using suitable techniques.
<p>Year 4 Evaluation</p> <ul style="list-style-type: none"> *Refer to design criteria while designing and making. *Use criteria to evaluate products. * Begin to explain how to improve the original design. *Evaluate existing products, 	<p>Structures End product: Treasure boxes (with separate compartments). Materials & Construction Is using suitable techniques.</p> <ul style="list-style-type: none"> ✓ Cut materials accurately and safely by selecting appropriate tools. ✓ Measure and mark out to the nearest millimetre. 	<p>Electrical systems End product: A night light for a toddler</p> <ul style="list-style-type: none"> ✓ Gather information about needs then develop design criteria to inform the design of products that are fit for purpose, aimed at particular individuals or groups. 	<p>Cooking and nutrition End product: Roasted vegetable fajita wraps</p> <ul style="list-style-type: none"> ✓ Prepare ingredients hygienically using appropriate utensils. ✓ Measure ingredients to the nearest gram accurately. ✓ Follow a recipe. ✓ Assemble or cook ingredients

<p>considering: how well they've been made, materials, whether they work, how they have been made, fit for purpose.</p> <ul style="list-style-type: none"> * Discuss by whom, when and where products were designed. * Research whether products can be recycled or reused. * know about some inventors/designers/engineers/chefs/manufacturers of ground-breaking products 	<ul style="list-style-type: none"> ✓ Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs). ✓ Select appropriate joining techniques. ✓ Choose suitable techniques to construct products or to improve items. ✓ Strengthen materials. 	<ul style="list-style-type: none"> ✓ Generate, develop, model and communicate realistic ideas. ✓ Order the main stages of making. ✓ Select from and use tools and equipment.. ✓ Select from and use materials and component ✓ Investigate and analyse a range of existing battery-powered products. ✓ Evaluate their ideas and products against their own design criteria and identify the areas for improvement. 	<p>(controlling the temperature of the oven or hob, if cooking).</p>
<p>Year 5 Evaluation</p> <ul style="list-style-type: none"> *Evaluate quality of design while designing and making. *Evaluate ideas and finished product against specification, considering purpose and appearance. *Test and evaluate the final product. *Evaluate and discuss existing products, considering: how well they've been made, materials, whether they work, how they have been made, fit for purpose. *Begin to evaluate how much products cost to make and how innovative they are *Research how sustainable materials are. *Talk about some key inventors/designers/ engineers/chefs/manufacturers of ground breaking products 	<p>Mechanical structure End product: a pulley system</p> <ul style="list-style-type: none"> ✓ Create own design criteria ✓ Have a range of ideas produce a logical, realistic plan and explain it to others. *use cross-sectional planning and annotated sketches ✓ Select materials carefully, considering intended use of product and appearance ✓ Measure accurately enough to ensure precision ✓ Ensure product is strong and fit for purpose ✓ Refine product after testing ✓ Grow in confidence about trying new / different ideas ✓ Begin to use cams, pulleys or gears to create movement 	<p>Cooking and nutrition End product: Bread rolls.</p> <ul style="list-style-type: none"> ✓ Understand the importance of correct storage and handling of ingredients. ✓ Measure accurately and calculate ratios of ingredients to scale up or down from a recipe. ✓ Demonstrate a range of baking techniques. ✓ Create, adapt and refine recipes, including ingredients, methods, cooking times and temperatures. ✓ Refine design after testing. 	<p>Structures End product: Da Vinci parachutes.</p> <ul style="list-style-type: none"> ✓ Cut materials with precision and refine the finish with appropriate tools (such as a more precise scissor cut after roughly cutting out a shape). ✓ Show an understanding of the qualities of materials to choose appropriate tools to cut and shape. ✓ Develop a range of practical skills to create products (such as cutting, gluing and reinforcing). ✓ Refine product after testing. ✓ Ensure product is fit for purpose.

Fleecefield Primary School DT Year 6

	Term 1	Term 2	Term 3
<p>Unit of work</p>	<p>Mechanisms in products End product, user and purpose: Victorian toys for Y6 children to understand lives of Victorian children. Note - Autumn 2023 it will be a greeting card with an electronic circuit for Y6 to send to family or friends.</p> 	<p>Framed structure and mechanisms End product, user and purpose: Windmills /wind turbines for Year 6 children to Name examples of fruit, describe what a fruit is Name examples of vegetables, describe what a vegetable is. Recall where the fruit and vegetables come from. Describe the flavours or taste. Describe the meaning of the word harvest. Describe a healthy balanced meal. Evaluation of the finished fruit kebab/vegetable salad- what went well,what would be even better if.</p>  <p>https://www.youtube.com/watch?v=mM5kO2PjCo</p>	<p>Cooking and nutrition End product, user and purpose: Brazilian food for Year 6 children to sample</p> 

<p>Link to Programme of study</p>	<p><u>Design</u> 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 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><u>Make</u> select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities</p> <p><u>Evaluate</u> investigate and analyse a range of existing products evaluate their ideas and products against their own design criteria and consider the views of others to improve their work understand how key events and individuals in design and technology have helped shape the world</p> <p><u>Technical knowledge</u> apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] apply their understanding of computing to program, monitor and control their products.</p>		
<p>Composite knowledge</p>	<p>Design, make and evaluate a board game (product) for the class(user) to assess understanding of a topic (purpose) Plan, design and construct a product which has a mechanism. Understand and use mechanisms in products. Compare types of products related to a particular topic. Research and compare the properties of materials and their suitability for a specific purpose. Use design techniques and their suitability for the desired outcome. Investigate the suitability of and appropriate use of tools and equipment to make desired products. The evaluation process.</p>	<p>Plan and construct a framed structure which has a mechanism. Compare types of products related to a particular topic. Research and compare the properties of materials and their suitability for a specific purpose. Use design techniques and their suitability for the desired outcome. Investigate the suitability of and appropriate use of tools and equipment to make desired products. Understand and use mechanisms in products. The evaluation process.</p>	<p>Research, plan and make a healthy meal. Research and describe the types of ingredients and nutrition related to a particular food product. Adapt recipes for their suitability for a desired outcome. Research the suitability of tools and equipment to then make desired products. Use different techniques to manipulate variables in order to make healthy and sustainable choices The evaluation process.</p>

Intentional knowledge they need to understand (Component knowledge)	<p>Research types of Victorian toys.</p> <p>Use design techniques and their suitability for the desired outcome e.g. exploding diagrams.</p> <p>Explain why we use computer control programs to operate products</p> <p>Select suitability of tools and equipment to make desired products</p> <p>Explain the effect of different mechanisms in products.</p> <p>Evaluate the final product to ensure that it is fit for purpose.</p>	<p>Research types of products related to industries.</p> <p>Identify types of materials and their suitability for a specific purpose.</p> <p>Use design techniques and their suitability for the desired outcome.</p> <p>Select suitability of tools and equipment to make desired products.</p> <p>Explain the effect of different mechanisms in products.</p> <p>Evaluate the final product to ensure that it is fit for purpose.</p>	<p>Research types of foods consumed in Brazil.</p> <p>Use a range of cooking techniques suitable for the desired outcome e.g. baking, frying</p> <p>Explain why we use computer control programs to operate products.</p> <p>Select suitability of tools and equipment to make a range of brazilian foods.</p> <p>Evaluate the final product to ensure that it is fit for purpose.</p>
Vocabulary	<p>Stiff, rigid, face, top, edge, surface, Victorian toy, pulley, gear, rotation, spindle, driver, follower, mechanical system, output design decisions, functionality, innovation, authentic, design brief.</p>	<p>framework, stiffen, rigid, structure, mechanism, rotate, axle, components, functionality, purpose.</p>	<p>Knead, measure, roll, bake, savoury, rise, fold, mix, Brazil, bread, cheese, ingredients.</p>

Links to prior knowledge	<p>EYRS Junk modelling Y1 Sliders Y2 Tudor house model Y4 Treasure box- shell structures Using measuring, marking out, cutting, joining, shaping and finishing techniques with construction materials. Basic understanding of what structures are and how they can be made stronger, stiffer and more stable. Design of a London house which is safe (linked to materials and GFL) in History.</p>	<p>EYRS Junk modelling Y1 Sliders Y2 Tudor house models Y3 Mini greenhouse Y5 da Vinci Parachute Using measuring, marking out, cutting, joining, shaping and finishing techniques with construction materials. Understanding of what structures are and how they can be made stronger, stiffer and more stable.</p>	<p>EYRS Growing vegetables, cutting fruit for snacks Y1 Fruit kebabs and vegetable salads Y2 Healthy and seasonal sandwich Y3 Healthy sandwiches Y4 Roasted vegetable fajita wraps Y5 Designing and making bread rolls. Knowledge and understanding about food hygiene, nutrition, healthy eating and a varied diet. Use of appropriate equipment and utensils, and apply a range of techniques for measuring out, preparing and combining ingredients.</p>
Key knowledge for assessment	<p>Plan, make, adapt a mechanical Victorian toy. Explain the variety and types of Victorian toys. Explain the purpose and aim of the games/toys. Identify the materials and techniques that were used. Evaluate what went well, what would be better if.</p>	<p>Plan, make and trial the wind turbine model. Describe the type of constructions to use to represent the agricultural industry. Identify and use appropriate materials to create the model. Use the appropriate app to use to create a 3D model of the design. Describe and use the components needed to include in the design. Identify the mechanisms needed to include in the design. Evaluate what went well, what would be better if.</p>	<p>Plan, make and sample Brazilian food. Describe the nutritional values of Brazilian food. Identify and use the correct equipment needed to weigh and measure the ingredients. Demonstrate how to use the equipment safely. Evaluate what went well, what would be better if.</p>
Cross-curricular links	<p>Science – apply knowledge and understanding of circuits, switches, conductors and insulators. Computing – design, write and debug</p>	<p>Computing - 3d modelling Maths - measure and geometry Science - forces</p>	<p>Computing - creating media Maths - measuring and estimating Science - variables and healthy eating Geography- South America</p>

	<p>programs that accomplish specific goals, including controlling physical systems. Use sequence, selection, and repetition in programs. Work with variables and various forms of input and output.</p> <p>Mathematics—apply understanding and skill to carry out accurate measuring using standard units i.e. cm/mm.</p>		
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