DT scheme of work (from Sep 2020) -

Christian values underpinning learning - Love, respect, determination, creation, creativity and peace

Intent

The National Curriculum (2014) forms the basis for all subject teaching ensuring continuity and progression in an age related curriculum. In addition, teachers make sure the content is relevant and stimulating by delivering through themes and topics.
Our DT curriculum has been developed because we believe that:

- DT is an inspiring, rigorous and practical subject, which provides children with a real life context for learning.
- Through DT children are able to create a range of structures, mechanisms, textiles, electrical systems and food products with a real life purpose.
- DT encourages children to use their creativity and imagination, to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values.
- DT encourages children to become independent problem solvers, thinkers and risk takers, as individuals and part of a team.
- Combine practical skills with an understanding of aesthetic, social and environmental issues, as well as functions and industry.
- DT allows children to reflect on and evaluate past and present technology, its uses and its effectiveness.

Implementation

All teaching of DT should follow the design, make and evaluate cycle. Products should be designed and made for a purpose. During the making stage, children should be practising techniques and refining their design as they go, teaching should highlight the importance of making on-going changes and improvements at this stage. Children should evaluate their own products against a design criteria. It is important that each stage of the process is valued, not just the end product. Teaching should develop technical knowledge and vocabulary. Progression of skills and technical knowledge should be evident as each year group builds on previous learning. We aim, wherever possible, to link DT learning to other subjects such as maths, science, computing and art.

Year A (2021 – 2022)

Class	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Oak	**Town and Country** Food – breakfast Materials - houses	**Autumn in the Woods** Food – autumn fruits Textiles – masks and decorations	**Wonderful Worlds** Food – from around the world Materials - landmarks	**Eggs** Food – Eggs Materials – flap books / moving pictures	**Miniature Worlds** Food – Healthy lunch Textiles – finger puppets Materials – elf and fairy houses	**Let's Tinker** Food –smoothies and fruit salads Materials – cars and boats
Poplar	**Inventions**	**Light and sound** Christmas decorations sewing	**Explorers**	**Explorers**	**Food** Cooking	**Farming through time**
Willow	**Explorers? Local study?**	**Human Body**	**Ancient Egypt**	**Ancient Egypt**	**Railways**	**Railways**
Maple	**Maya**	**Space** design and create own textile piece in the style of Karen Rose	**Space** Design and build Mars Rover	**Comparing people and places**		**Homefront** DT - Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose – Build Anderson Shelters and Gas Masks Textiles – Rag rugs and Make do and Mend

Year B (2020 – 2021)

Class	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Oak	**Town and Country** Food – breakfast Materials - houses	**Autumn in the Woods** Food – autumn fruits Textiles – masks and decorations	**Wonderful Worlds** Food – from around the world Materials - landmarks	**Eggs** Food – Eggs Materials – flap books / moving pictures	**Miniature Worlds** Food – Healthy lunch Textiles – finger puppets Materials – elf and fairy houses	**Let's Tinker** Food –smoothies and fruit salads Materials – cars and boats
Poplar	**Toys** Creating our own toys Sewing	**Fizz, Pop, Bang** Sewing	**Africa** Cooking	**On Safari**	**My Country** Cooking	**My Town (Didcot)**
Willow	**Stone Age and ice age**	**Bronze Age to Iron Age**	**Rainforests and the Amazon**		**Greeks and Olympics**	
	Food				Sculpture and building structures	
Maple	**Romans**	**Natural Disasters**	**Anglo Saxons and Vikings**		**The River Thames**	

	Art/DT – Roman Mosaics – Design and create own mosaic Illuminated Lettering Photography – objects to represent letters to give words	Art/DT – Oil Pastels – Artists Turner and Martin Collage - textures and layers	DT/Art – Creating Hack silver jewellery, Viking food Art appreciation – Edvard Munch	**(local study- Abingdon Abbey)** Art/DT – Water colours and detailed observational sketching. James Brunt – Natural Artist Making own boats which float

Area	Oak – Reception	Poplar – Y1/2	Willow – Y3/4	Maple – Y5/6
DT opportunities	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, such as the home and school, gardens and playgrounds, the local community, industry and the wider environment. * Experiments to create different textures. * Understands that different media can be combined to create new effects. * Manipulates materials to achieve a planned effect. * Constructs with a purpose in mind, using a variety of resources. * Uses simple tools and techniques	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, such as the home and school, gardens and playgrounds, the local community, industry and the wider environment. When designing and making, pupils should be taught to: **Design** * design purposeful, functional, appealing products for themselves and other users based on design criteria.	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, such as the home and school, gardens and playgrounds, the local community, industry and the wider environment. When designing and making, pupils should be taught to: **Design** * design purposeful, functional, appealing products for themselves and other users based on design criteria.	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, such as the home and school, gardens and playgrounds, the local community, industry and the wider environment. When designing and making, pupils should be taught to: **Design** * use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular

	competently and appropriately. * Selects appropriate resources and adapts work where necessary. * Selects tools and techniques needed to shape, assemble and join materials they are using. **Early Learning Goal** **Children sing songs, make music and dance, and experiment with ways of changing them. They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function**	**Make** * select from and use a range of tools and equipment to perform practical tasks such as 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. **Evaluate** *explore and evaluate a range of existing products. **Technical knowledge** *build structures, exploring how they can be made stronger, stiffer and more stable. *explore and use mechanisms, such as levers, sliders, wheels and axles, in their products. **Cooking and nutrition** * use the basic principles of a healthy	* generate develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. **Make** * select from and use a range of tools and equipment to perform practical tasks such as 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. **Evaluate** * explore and evaluate a range of existing products. * evaluate their ideas and products against design criteria. **Cooking and nutrition** * use the basic principles of a healthy	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. **Make** * select from and use a wider range of tools and equipment to perform practical tasks, such as 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. **Evaluate** * investigate and analyse a range of existing products. * evaluate their ideas and products against their own design criteria and consider the views of others

		and varied diet to prepare dishes. * understand where food comes from ***I can use my own ideas to make something** ***I can describe how something works** ***I can make a product that moves** ***I can make my model stronger** ***I can explain to someone else how I want to make my product** ***I can choose appropriate resources and tools** ***I can make a simple plan before making** ***I can think of an idea and plan what to do next** ***I can choose tools and materials and explain why I have chosen them** ***I can join materials and components in different ways** ***I can explain what went well with my work**	and varied diet to prepare dishes. * prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. **I can prove that my design meets some set criteria** ***I can follow a step-by=step plan choosing the right equipment and materials** ***I can design a project and make sure that it looks attractive** ***I can select the most appropriate tool and technique for a given task** ***I can work accurately to measure, make cuts and holes** ***I can use ideas from other people when I am designing** ***I can produce a plan and explain it** ***I can evaluate and suggest improvements for my designs** ***I can evaluate products for both their purpose and appearance** ***I can explain how I improved my original design**	to improve their work. * understand how key events and individuals in design and technology have helped shape the world **Technical knowledge** * apply their understanding of how to strengthen, stiffen and reinforce more complex structures. * understand and use mechanical systems in their products, such as gears, pulleys, cams, levers and linkages. * understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs, buzzers and motors. * apply their understanding of computing to programme, monitor and control their products. **Cooking and nutrition** * understand and apply the principles of a healthy and varied diet. * prepare and cook a variety of

			***I can present my product in an interesting way** ***I can measure accurately** ***I can persevere and adapt my work when my original ideas do not work**	predominantly savoury dishes using a range of cooking techniques. * understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed. ***I can come up with a range of ideas after collecting information from different sources** ***I can produced a detailed step by step plan** ***I can suggest alternative plans; outlining the positive features and draw backs** ***I can explain how a product will appeal to a specific audience** ***I can evaluate appearance and function against original criteria** ***I can make a prototype before I make a final version** ***I can follow and refine my plans** ***I can use market research to inform my plans and ideas** ***I can justify my plans in a convincing way** ***I can show that I consider culture and society in my plans and designs** ***I show that I can test and evaluate my products** ***I can explain how products should**

				be stored and give reasons ***I can work within a budget** ***I can evaluate my product against clear criteria**
Master practical skills: Food	* Cut ingredients safely and hygienically. * Measure or weigh using measuring cups or electronic scales. * Assemble or cook ingredients.	*Cut ingredients safely and hygienically. * Measure or weigh using measuring cups or electronic scales. * Assemble or cook ingredients, follow a recipe. ***I can cut food safety** ***I can describe the ingredients I am using**	* Cut, peel or grate ingredients safely and hygienically. * Measure or weigh using measuring cups or electronic scales. * Follow a recipe ***I can describe how food ingredients come together** *** I know how to be both hygienic and safe when using food**	* Understand the importance of correct storage and handling of ingredients (using knowledge of micro-organisms). * Measure accurately and calculate ratios of ingredients to scale up or down from a recipe. * Demonstrate a range of baking and cooking techniques. * Create and refine recipes, including ingredients, methods, cooking times and temperatures. **I show that I can be both hygienic and safe in the kitchen**
Master practical skills: Materials	* Manipulate materials to achieve a planned effect. * Construct with purpose in mind, using a variety of resources. * Select appropriate resources and adapt work where necessary. * Select tools and techniques needed	* Cut materials safely using tools provided * Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen).	* 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).	* Cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape). * Measure and mark out to the nearest millimetre. * Show an understanding of the

	to shape, assemble and join materials. * Create simple representations of events, people and objects.		* Select appropriate joining techniques.	qualities of materials to choose appropriate tools to cut and shape (such as the nature of fabric may require sharper scissors than would be used to cut paper). I can use a range of tools and equipment competently
Master practical skills: Textiles	* Manipulate materials to achieve a planned effect. * Construct with purpose in mind, using a variety of resources. * Select appropriate resources and adapt work where necessary. * Select tools and techniques needed to shape, assemble and join materials.	* Join textiles using running stitch. * Colour and decorate textiles using a number of techniques (such as dyeing, adding sequins or printing). *I can explain why I have chosen specific textiles	* Shape textiles using templates. * Join textiles using running stitch. * Join textiles with appropriate stitching. * Colour and decorate textiles using a number of techniques (such as dyeing, adding sequins or printing). *I can choose a textile for both its suitability and its apperance	* Understand the need for a seam allowance. * Create objects (such as a cushion) that employ a seam allowance. * Join textiles with a combination of stitching techniques (such as back stitch for seams and running stitch to attach decoration). * Use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles (such as a soft decoration for comfort on a cushion).
Master practical skills: Electricals & electronics		* Diagnose faults in battery operated devices (such as low battery, water damage or battery terminal damage).	* Diagnose faults in battery operated devices (such as low battery, water damage or battery terminal damage). * Create series and parallel circuits *I can make a product which uses	* Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips).

			both electrical and mechanical components	
Master practical skills: computing		* Model designs using software. * Control and monitor models using software designed for this purpose.	* Model designs using software. * Control and monitor models using software designed for this purpose.	* Model designs using software. * Control and monitor models using software designed for this purpose * Write code to control and monitor models or products.
Master practical skills: Construction		*Use materials to gluing and nailing materials to make and strengthen products.	* Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products. * Choose suitable techniques to construct products or to repair items. * Strengthen materials using suitable techniques.	*Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filling and sanding). * Choose suitable techniques to construct products or to repair items. * Strengthen materials using suitable techniques
Master practical skills: Mechanics		* Use construction kits that include gears, levers and wheels	* Use construction kits that include gears, levers and wheels * Create products using levers, wheels and winding mechanisms.	* Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears). * Convert rotary motion to linear using cams. * Use innovative combinations of electronics (or computing) and mechanics in product designs.

To design, make and improve	*Design products that have a clear purpose and an intended user. * Make products through stages of mock ups, making continual refinements.	*Design products that have a clear purpose and an intended user. * Make products through stages of mock ups, making continual refinements.	* Design with purpose by identifying opportunities to design.* Make products, refining the design as work progresses, evaluate work. * Use software to design. * Make products through stages of prototypes, making continual refinements.	* Make products by working efficiently (such as by carefully selecting materials). * Design with the user in mind, motivated by the service a product will offer (rather than simply for profit). * Ensure products have a high quality finish, using art skills where appropriate. * Use prototypes, cross-sectional diagrams and computer aided designs to represent designs. * Use software to design and represent product designs.
To take inspiration from design throughout history	* Explore how products have been created.	* Explore objects and designs to identify likes and dislikes of the designs. * Suggest improvements to existing designs.	* Explore objects and designs to identify likes and dislikes of the designs. * Suggest improvements to existing designs. * Disassemble products to understand how they work.	* Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices. * Create innovative designs that improve upon existing products. * Evaluate the design of products so as to suggest improvements to the user experience.

Impact

Long term:

- That children will be able create structures, mechanisms, textiles, electrical systems and food products with a real life purpose.
- That children will use their creativity and imagination, to design and make products that solve real and relevant problems.
- That children will become independent problem solvers, thinkers and risk takers, as individuals and part of a team.
- That children will be able to combine practical skills with an understanding of aesthetic, social and environmental issues, as well as functions and industry.
- DT allows children to reflect on and evaluate their designs.

Assessment in DT:

- Pupil voice – to check understanding, understanding of key techniques, progression, confidence in discussing their designs and techniques
- Display and books – opportunity to practise skills, varied and engaging curriculum, showcased final pieces, clear progression in skills
- Feedback from parents and guests who attend show case events

Role of the co-ordinator:

- Highlight / Celebrate successes
- Collate appropriate evidence over time – this should show that pupils' skills and understanding develop over time
- Monitor the standards in the subject to ensure that outcomes are at expected levels
- Provide ongoing support to colleagues