Curriculum Map
Subject: Design & Technology

Intent Statement

Our intent at St Nicholas Catholic Primary School is to deliver a broad and balanced Art & Design curriculum that is ambitious, challenging and engaging. Pupils receive a high-quality Art education that engages, inspires and challenges pupils. It is designed to give all pupils, including those who are disadvantaged and pupils with SEND, the cumulative knowledge, understanding, skills and cultural capital they need for future learning, employment and life. Children receive a design and technology curriculum which allows them to exercise their creativity through designing and making. The children are taught to combine their designing and making skills with knowledge and understanding in order to design and make a product. Skills are taught progressively to ensure that all children are able to learn and practice in order to develop as they move through the school. Evaluation is an integral part of the design process and allows children to adapt and improve their product, this is a key skill which they need throughout their life. D&T allows children to apply the knowledge and skills learned in other subjects, particularly Maths, Science and Art. Children's interests are captured through theme learning, ensuring that links are made in a cross curricular way, giving children motivation and meaning for their learning

Implementation - curriculum coverage

file:///D:/Curriculum/DT/O_DT-Curriculum-Overview-Plus-MixedAge-18-05-21.pdf
https://www.kapowprimary.com/wp-content/uploads/2021/05/M_Pupil-Progression-DT-2020.pdf

Year group	Autumn 1	Spring 1	Summer 1
Reception	Uses various construction materials. Construct, stacking blocks vertically and horizontally, making enclosures and creating spaces. Join construction pieces together to build and balance. Realises tools can be	Manipulates materials to achieve a planned effect. Constructs with a purpose in mind, using a variety of resources. Uses simple tools and techniques competently and appropriately. Selects appropriate	Using and exploring a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

	used for a purpose.	resources and adapts work where necessary. Selects tools and techniques needed to shape, assemble and join materials they are using.	
	<u>Key objectives (Pupils must know and remember theses facts / Improve, hone & apply these skills)</u> ★ Children can plan how best to approach a task ★ Children can safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function ★ Children can share their creations, explaining the process they have used. ★ Children can identify success and next steps ★ Children can make use of props and materials when role playing characters in narratives and stories.		

Year group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	**Fruit and Vegetables** Children handle and explore fruits and vegetables and learn how to identify which category they fall into.	**Smoothies** Children undertake taste testing to establish their chosen ingredients for the smoothie they will make a design packaging for.	**Moving Storybook** Children experiment with sliders before planning and making three pages of a moving story book, based on a familiar story. They will draw the page backgrounds, make	**Wheels and axles** Children learn about the main components of a wheeled vehicle; experiment with mechanisms to help them develop their understanding of how wheels, axels and axel holders work; assume the role of a mechanic to problem-solve why	**Inspired** by the song, 'Mouse in a windmill', children design, decorate and build a windmill for their mouse client to live in, developing an understanding of different types of windmill, how they work and their key features.	**Puppets** Children explore different ways of joining fabrics before creating their own hand puppets based upon characters from a well-known fairytale. Throughout they work to develop

			the moving parts and assemble it.	wheels won't rotate; demonstrate learning by designing and building their own moving vehicles. Children to evaluate what they have made.		their technical skills of cutting, gluing, stapling and pinning. Children to evaluate their work against the set criteria.
	<u>Key objectives (Pupils must know and remember theses facts / Improve, hone & apply these skills)</u> ★ Design purposeful, functional, appealing products based on design criteria. ★ Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing. ★ Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and ICT and, where appropriate, information and communication technology. ★ Describe what they want to do using pictures and words. ★ Use simple terms to talk about their own and others' work.					

Year group	Autumn	Spring 1	Spring 2	Summer 1	Summer 2
Year 2	**A Balanced Diet** Through their exploration of what makes a balanced diet, children taste test food combinations of different food groups. They will also aim to make a wrap that includes a healthy mix of protein, vegetables and dairy, and learn about the term 'hidden sugars'. Discuss the origins of	**Moving Monsters** After learning the terms; pivot, lever and linkage, children set to designing a monster that will move using a	**Ferris Wheel** This unit brings together the children's knowledge of mechanisms and structures. They design and create their own	**Baby Bear's Chair** Using the tale of Goldilocks and the Three Bears as inspiration, children help poor Baby Bear by making him a	**Pouches** Having looked at ways to join fabric in Year 1, children are given their first opportunity to sew in this topic. By designing and

	food and where food types come from.	linkage mechanism. After practising making linkages of different types and varying the materials they use, children can also bring their monsters to life with the gift of movement.	Ferris wheels, considering how the different components fit together so that their wheels rotate and their structures stand freely. Pupils select appropriate materials and develop their cutting and joining skills to create a final product. Children to evaluate their final product.	brand new chair. When designing the chair, they consider his needs and what he likes and explore ways of building it so that it is a strong and stable structure.	making their own template, children can ensure that their pieces of fabric will be exactly the right size. With their fabric cut out, pupils use a simple running stitch to join two pieces together before decorating the front of it, according to their designs CHildren to then reflect on their designs and evaluate their final outcome. .
	<u>Key objectives (Pupils must know and remember theses facts / Improve, hone & apply these skills)</u> ★ Can they generate ideas through comparing existing products? ★ Can they choose the most appropriate tools and materials and explain their choices? ★ Can select from and use a wide range of materials and components, including construction materials, textiles, ingredients according to their characteristics. ★ Do they recognise what they have done well and talk about what could be improved? ★ Explore and evaluate a range of existing products				

Year group	**Autumn 1**	**Autumn 2**	**Spring**	**Summer**

<table>
<tr><td rowspan="2">Year 3</td><td>Eating Seasonally
Children discover when and where fruits and vegetables are grown and also learn about seasonality in the UK. They will also learn about the relationship between the colour of fruits and vegetables and their health benefits. Children will make three dishes using seasonal ingredients.</td><td>Constructing a Castle
Learning about the features of a castle, children design and make one of their own. Design using sketches. They will also be using configurations of handmade nets and recycled materials to make towers and turrets and constructing a base to secure them.</td><td>Textiles: Cushions
Having already learnt the basics of sewing and decorating fabric in earlier years, this topic offers an extra challenge by introducing two new skills to add to their repertoire: cross stitch and appliqué. After learning these techniques, they apply their knowledge to the design, decoration and assembly of their very own cushions. Peer to peer evaluation of the final products made.

Electrical System: Static Electricity
Children are introduced to static electricity and based on scientific understanding of positive and negative charges. They observe the effects of static electricity on objects such as plastic straws, tissue paper and glitter. They will then consider ways of using static electricity as part of a simple game that they will make</td><td>Pneumatic toys
Pupils design and create a toy with a pneumatic system, learning how trapped air can be used to create a product with moving parts while also building on their design knowledge. Consideration to be given to other ways to power these electrical systems/ switches etc. look at existing products like this.
They will then be introduced to thumbnail sketches and exploded diagrams. Evaluate their design against the set criteria.</td></tr>
<tr><td colspan="4"><u>Key objectives (Pupils must know and remember theses facts / Improve, hone & apply these skills)</u>
★ Use research and develop 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 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 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 ideas and products against their own design criteria and consider the views of others to improve</td></tr>
</table>

	their work.

Year group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer
Year 4	**Structure: Pavillions** Pupils explore pavilion structures, learning about what they are used for and investigating how to create strong and stable structures before also designing and creating their own pavilions, complete with cladding	**Food: Adapting A Recipe** Children work in groups to adapt a simple biscuit recipe, to create the tastiest biscuit. While making they will also ensure that their creation comes within the given budget of overheads and costs of ingredients. Coverage of what a healthy diet consists of and where this could be used to adapt recipes	**Textiles: Fastenings** Building upon their sewing skills from previous years, this topic sees the children designing and creating a book sleeve; exploring a variety of fastenings and selecting the most appropriate one for their design. Pupils have greater creative freedom at every stage of the project. Evaluating end	**Electrical Systems:Torches** In this topic, children apply their scientific understanding of electrical circuits to create a torch made from easily available materials and objects. They will also design and evaluate their product against set design criteria.et design criteria.	**Mechanical Systems: Slingshot Cars** Children transform lollipop sticks, wheels, dowels and straws into a moving car. They will be using a glue gun to construct the materials, making the launch mechanism, designing and also making the body of the vehicle using nets and assembling these to the chassis. During the evaluation process Children explore the possibilities of adding other mechanical systems if they were to remake. What changes would they make.

		should also be considered in this unit. .	product against the set criteria.		
	<u>Key objectives (Pupils must know and remember theses facts / Improve, hone & apply these skills)</u> ★ Use research and develop 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 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 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 ideas and products against their own design criteria and consider the views of others to improve their work.				

Year group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer
Year 5	**Food: What could be healthier?** Focusing on nutrition, children research and modify a traditional bolognese sauce recipe to make it	**Mechanical Systems: Pop up books** After choosing a simple story or nursery rhyme, children design and create a four-page pop-up	**Textiles: Stuffed toys** Creating their own stuffed toy is a really fun project as children can bring their drawings to life and can make	**Electrical Systems: Electronic greetings cards** This unit builds on pupils' knowledge of how to incorporate	**Structure: Bridges** This topic develops children's understanding of secure structures and introduces them to measuring, sawing and joining wood accurately. After learning about different types of bridges and also exploring how the strength of structures can be affected by the shapes used. Children create their own wooden bridge and test its durability.This

	healthier. They will cook their new and improved versions, make appropriate packaging and also learn about the ethical considerations of farming cattle.	storybook design. They will also add accompanying captions, incorporating a range of mechanisms and decorative features, including: structures, levers, sliders, layers and spacer	them as challenging or as simple as they choose. Children sketch and draw designs. Not only does this topic give them the chance to apply skills they have learned in previous topics, it also introduces them to a new stitch – blanket stitch.	electrical circuits into products from Y4. Children explore how circuits can be adapted to suit different purposes, explore series circuits and recreate one using conductive adhesive tape. They then apply this knowledge to design and create an electronic greeting card.	topic develops children's understanding of secure structures and introduces them to measuring, sawing and joining wood accurately. After learning about different types of bridges and also exploring how the strength of structures can be affected by the shapes used. Children create their own wooden bridge and test its durability, evaluating as they go through the making process. .
	<u>Key objectives (Pupils must know and remember theses facts / Improve, hone & apply these skills)</u> ★ Use research and develop 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 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 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 ideas and products against their own design criteria and consider the views of others to improve their work.				

Year group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer
Year 6	**Food: Come dine with me** Working in groups, children research and prepare a three-course meal taught as a rotational activity over three lessons. They will taste-test and score their food and when they aren't cooking, they will research the journey of their main ingredient from 'farm to fork' or write a favourite recipe to include in a class cookbook.	**Mechanical Systems: Automata toys** Using woodworking materials and skills, pupils construct a window display using an automata mechanism. Children explore and evaluate existing products. They will be measuring and cutting their materials, assembling the frame, choosing cams, designing the characters that sit on the followers and also finishing with a foreground and background.	**Textiles: Waistcoats** Using the skills they've developed over the past few years, children select fabrics, use templates, pin, decorate and stitch to create a waistcoat for a person or purpose of their choosing.	**Electrical Systems: Steady hand game** Using their understanding of electrical systems and design, pupils are challenged with designing and creating a steady hand game. Pupils will use nets to create their bases and their knowledge of electrical circuits to build a circuit with a buzzer which closes when the handle makes contact with the wire frame	**Structure: Playgrounds** This topic draws upon pupils' skills and knowledge of structures, challenging them to design and create a model of a new playground featuring five apparatus, made from three different structures. Creating a footprint as the base, pupils can practise visualising objects in plan view and also get creative with their use of natural features and cladding for their structures.
	<u>Key objectives (Pupils must know and remember theses facts / Improve, hone & apply these skills)</u> ★ Use research and develop 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 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 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 ideas and products against their own design criteria and consider the views of others to improve their work.