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| St Mary’s Catholic Primary School – DT Curriculum Progression | | | | | | |
| DT Intent | The aims of teaching design and technology in our school are:   * Develop creative, technical and imaginative thinking in children and to develop confidence to participate successfully in an increasingly technological world. * Enable children to talk about how things work and to develop their technical knowledge * Apply a growing body of knowledge, understanding and skills in order to design and make prototypes and products for a wide range of users * Encourage children to select appropriate tools and techniques when making a product, whilst following safe procedures * Develop an understanding of technological processes and products, their manufacture and their contribution to our society * Foster enjoyment, satisfaction and purpose in designing and making things * Critique, evaluate and test their ideas and products, and the work of others * Understand and apply the principles of nutrition and to learn how to cook * Understand how key events and individuals in design and technology have helped shape the world | | | | | |
| EYFS –see Development Matters 2021 for detailed examples of how to support learning in EYFS  Expressive Arts and Design The development of children’s artistic and cultural awareness supports their imagination and creativity. It is important that children have regular opportunities to engage with the arts, enabling them to explore and play with a wide range of media and materials. The quality and variety of what children see, hear and participate in is crucial for developing their understanding, self-expression, vocabulary and ability to communicate through the arts. The frequency, repetition and depth of their experiences are fundamental to their progress in interpreting and appreciating what they hear, respond to and observe. | | | | | | |
| 0-3 YEARS | | | 3-4 YEARS | | | RECEPTION |
| Explore different materials, using all their senses to investigate them.  Manipulate and play with different materials.  Use their imagination as they consider what they can do with different materials. Make simple models which express their ideas. | | | Explore different materials freely, in order to develop their ideas about how to use them and what to make.  Develop their own ideas and then decide which materials to use to express them.  Join different materials and explore different textures. | | | Return to and build on their previous learning, refining ideas and developing their ability to represent them. Create collaboratively, sharing ideas, resources and skills.  ELG: Creating with Materials 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; |
| Area of Study | Years 1/2/3 | | | Years 4/5/6 | | |
| Make | National Curriculum. Pupils should be taught to:  KS1  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,  KS2  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. | | | | | |
|  | Know what materials can be used for a structure. Know what a join is and use one. Measure and mark out materials with care and increasing accuracy. Cut materials safely (scissors) Be careful to make work look as neat as possible. Find out how to make materials for structure stronger (folding, rolling and joining, columns and triangles) Know that textiles have different properties: touch, insulation, texture and waterproof.  Select the appropriate textile so that it does the job.  Describe textiles by the way they feel. Measure, mark out and cut fabric. Join fabrics using glue and running stitch. Make sure work is neat and tidy. Use appropriate materials and an appropriate join. Measure and mark out materials with care and increasing accuracy (cm)  Use scoring and folding to shape materials accurately  Use art textiles skills such as stitching to help create a product that is sturdy and fit for purpose. | | | Make cuts accurately (scissors and saws) Make holes accurately (drill, punch) Join materials to make products using both permanent and temporary fastenings. Methods of working are increasingly precise aiming for a high-quality finish. Select the appropriate textile(s) for a product. Use sharp scissors accurately to cut textiles. Select from a variety of materials best suited toa design. Measure using mm and then use scoring, and folding to shape materials accurately. Make cuts accurately and reject pieces that are not accurate and improve their technique. Joins are strong and stable, giving extra strength to products. Some joins are flexible to allow for dismantling or folding. Methods of working are precise so that products have a high-quality finish. Use computer programming when creating a product. Combine art skills to add colour and texture to work.  Mark out using patterns and templates. Join textiles using art skills of stitching and embroidering to make durable and desirable products. | | |
| Evaluate | National Curriculum. Pupils should be taught to:  KS1  Explore and evaluate a range of existing products evaluate their ideas and products against design criteria  KS2  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. | | | | | |
|  | Know / say what a product is.  Describe a product (who is it for, what is made from, how is it made, how it works)  Talk about their own work (features, design, opinion)  Describe how their product works  Know the features of familiar products  Give reasons for some features (colour choice, material used, joining technique)  Explain why they chose certain materials, techniques and tools.  Research and evaluate existing products to inform planning  Understand that products are designed for a purpose (e.g. a problem, an audience, an event) | | | Research and evaluate existing products to inform planning  Understand that products are designed for a purpose (e.g. a problem, an audience, an event)  Talk about own and others’ work (features, design, opinion)  Explain why they chose certain materials, techniques and tools  Say how they would improve their product  Identify what is working well and what can be improved (this is during the make as well as at the end)  Research and evaluate existing products giving reasons for the decisions of the designers (materials, design, tools, techniques)  Use the ideas from current designers to help with plans  Reflect on designs and develop them bearing in mind the way they will be used (during the process) | | |
| Technical Knowledge and Knowledge of designers | National Curriculum. Pupils should be taught to:  KS1  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  KS2  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 [e.g., series circuits incorporating switches, bulbs, buzzers and motors]  Apply their understanding of computing to program, monitor and control their products | | | | | |
|  | Explore how moving objects work. Look at wheels, axels, turning mechanisms, hinges and simple levers.  Make a product that moves using a turning mechanism  (e.g. wheels, winding) or a lever or a hinge (to make a  movement) Know what a designer does. Know the names and the products of some British designers. Say what they like and dislike about the product and the design.  Know the application of mechanisms to create movement.  Combine a number of components well in a product.  Use simple circuits to either illuminate or create motion.  Make a product that uses both electrical and mechanical components. | | | Know that products have a good finish so that a user will find it both useful and attractive. Know some designers from history.  Talk about some of the tools, techniques and design used by the designer. Choose components that can be controlled by  switches or by ICT equipment. Use science skills (resistance, circuits etc) to alter the way electrical products behave.  Explore mechanical movement using hydraulics and pneumatics.  Use other DT skills to create housings for mechanical components. Product are well finished in a way that would  appeal to users Know how key events and individuals have  influenced the world (in terms of products) Compare and contrast the work of different designers (e.g. historical and modern. | | |
| Cooking and Nutrition | National Curriculum. Pupils should be taught to:  KS1  Use the basic principles of a healthy and varied diet to prepare dishes  Understand where food comes from  KS2  Understand and apply the principles of a healthy and varied diet  Prepare and cook a variety of 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 | | | | | |
| With help, use knives safely  Use a mixing bowl  Be aware of hygiene for cooking  Know some things are made and some things are  Natural.  Know some things are dangerous to eat raw  Know heat changes food  Use a variety of utensils safely  Know what the food groups are  Know where some foods come from  Be aware there are different ways to cook  Prepare a healthy snack  Select ingredients for a product with reasons  Work in a safe, hygienic way  Begin to measure out ingredients  Understand what is healthy and unhealthy | | | Boil and bake to cook  Understand why we need a healthy diet  Use knowledge of the food groups to plan a lunch  Know where food comes from  Prepare a healthy meal (such as a healthy picnic or a  survival stew)  Explain why they have chosen ingredients in a dish  Know why we need certain food types  Know about local produce  Know where different crops can be found around  the world and understand the concept of carbon  footprints  Know different cultures have different diets  Design and prepare a healthy dinner | | |
|  | | Years 1/2/3 | | | Years 4/5/6 | |
| Cycle 1  Cycle 2  Cycle 3 | | Textiles – Seasonal Decorations  Cooking – Eat More Fruit and Vegetables  Structures - Stable Structures  Electrical Systems - Light Up Signs  Mechanisms – Vehicles  Structures – Playgrounds  Textiles - Puppets  Cooking – Pizzas and Sandwiches  Mechanisms (pneumatics) – Moving Monsters | | | Textiles – Seasonal Stockings  Cooking – The Perfect Vegetable Soup  Structures – Building Bridges  Programming and Electronics – Programming Pioneers  Mechanisms – Fairgrounds  Structures – Bird House  Textiles – Money Containers  Cooking – Bread and Biscuits  Mechanisms (hydraulics) – Moving Toys | |