**oly Cross Catholic Primary School**



**Design Technology Curriculum Map 2023 – 2024**

**We care, we share, we value.**

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|  | | **Autumn** | |  | **Spring** | | **Summer** |
| **Nursery** | | * Paper plate masks * Using tools safely | | • • •  • | Using tools for a purpose  Building enclosures for a purpose  Build structures/models in collaboration with peers  Adapt work | | * Talk about how things change * Repeating patterns |
| **Reception** | | * Uses simple tools and techniques competently and appropriately. * Selects appropriate resources and adapts work where necessary. | | •  • | They safely use and explore a variety of materials,  They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role- play and stories. | | * They safely use and explore a variety of materials, * They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role- play and stories. |
| **Year 1** | | **FREE**  **STANDING**  **STRUCTURES**  e.g. a chair for a character  Begin to draw on their own experience to help generate ideas and research conducted on criteria.  Understand how to identify a target group for what they intend to design and make based on a design criterion.  Begin to develop their ideas through talk and drawings. Make templates and mock ups of their ideas in card and paper or using ICT.  Begin to build structures, exploring how they can be made stronger, stiffer and more stable.  With help measure, mark out, cut and shape a range of materials.  Begin to assemble, join and combine materials and components together  using a variety of temporary methods  e.g. glues or masking tape.  Begin to use simple finishing techniques  Start to evaluate their product by discussing how well it works in relation to the purpose, commenting on possible changes. | |  | **SLIDES and LEVERS:**  **EASTER CARD**  Design, make, evaluate Easter cards with moving parts.  Begin to understand the development of existing products: What they are for, how they work, materials used. Start to suggest ideas and explain what they are going to do.  Understand how to identify a target group for what they intend to design and make based on a design criterion.  Begin to develop their ideas through talk and drawings. Make templates and mock ups of their ideas in card and paper or using ICT.  Begin to make their design using appropriate techniques  Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products  Explore using tools  e.g. scissors and a hole punch safely.  Begin to use simple finishing techniques    Start to evaluate their product by discussing how well it works in relation to the purpose, commenting on possible changes. | | **FOOD &**  **NUTRITION:**  **PREPARING**  **FRUIT & VEG - FRUIT BASED**.  Begin to understand that all food comes from plants or animals.    Explore the understanding that food has to be farmed, grown elsewhere (e.g. home) or caught.    Start to understand how to name and sort foods into the five groups in ‘The Eat well  plate’    Begin to understand that everyone should eat at least five portions of fruit and vegetables every day.    Know how to prepare simple dishes safely and hygienically, without using a heat source. Know how to use techniques such as cutting, peeling and grating. |
| **Year 2** | | **FOOD &**  **NUTRITION:**  **Smoothies**  Understand that all food comes from plants or animals.    Know that food has to be farmed, grown elsewhere (e.g. home) or caught.    Understand how to name and sort foods into the five groups in  ‘The Eat well plate’    Know that everyone should eat at least five portions of fruit and vegetables every day.    Demonstrate how to prepare simple dishes safely and hygienically, without using a heat source.    Demonstrate how to use techniques such as cutting, peeling and grating. | |  | **TEXTILES –**  **Templates and joining 2 pieces**  **e.g. Hand puppet**  Start to generate ideas by drawing on their own and other people's experiences.  Begin to develop their design ideas through discussion, observation, drawing and modelling.      Understand how to identify a purpose and a target group for what they intend to design and make based on a design criterion.  Develop their ideas through talk and drawings and label parts. Make templates and mock ups of their ideas in card and paper or using ICT.  Start to assemble, join and combine materials in order to make a product.    Demonstrate how to cut, shape and join fabric to make a simple product. Use basic sewing techniques.    Start to choose and use appropriate finishing techniques based on own ideas.  Evaluate their work against their design criteria.  Start to evaluate their products as they are developed, identifying strengths and possible changes they might make.    With confidence talk about their ideas, saying what they like and dislike about them. | | **WHEELS &**  **AXLES**  **Design & make car/toy /vehicle with wheels**  Start to generate ideas by drawing on their own and other people's experiences.  Begin to develop their design ideas through discussion, observation, drawing and modelling.      Understand how to identify a purpose and a target group for what they intend to design and make based on a design criterion.  Develop their ideas through talk and drawings and label parts. Make templates and mock ups of their ideas in card and paper or using ICT.  Build structures, exploring how they can be made stronger, stiffer and more stable  Begin to select tools and materials; use correct vocabulary to name and describe them.    With help measure, cut and score with some accuracy. Learn to use hand tools safely and appropriately.    Start to choose and use appropriate finishing techniques based on own ideas.  Evaluate their work against their design criteria.    Start to evaluate their products as they are developed, identifying strengths and possible changes they might makeand **w**ith confidence talk a**bout** what they like and dislike about **their products**. |
| **Year 3** | **FOOD & NUTRITION:**  **HEALTHY & VARIED DIET**  **Vegetable Dips**  Start to know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world.    Understand how to prepare and cook a  variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.    Begin to understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.    Start to understand that a healthy diet is made up from a variety and balance of different food and drink, as depicted in  ‘The Eat well plate’    Begin to know that to be active and healthy, food and drink are needed to provide energy for the body  . | | **MECHANICAL SYSTEMS:**  **LEVERS & LINKAGES**  **Eg poster/ information book connected to science**  With growing confidence generate ideas for an item, considering its purpose and the user/s.    Start to order the main stages of making a product. Identify a purpose and establish criteria for a successful product.  Learn about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products.  Know to make drawings with labels when designing.  When planning explain  their choice of materials and components **and** understand whether products can be recycled or reused.  Select a wider range of tools and techniques for making their product  Start to understand that mechanical and electrical systems have an input, process and output.    Start to understand that mechanical systems such as levers and linkages or pneumatic systems create movement.    Know how simple  electrical circuits and components can be used to create functional products  Start to work safely and accurately with a range of simple tools  Start to evaluate their product against original design criteria e.g. how well it meets  its intended purpose    Begin to disassemble and evaluate familiar products and consider the views of others to improve them.    Evaluate the key designs of individuals in design and technology has helped shape the world | | | **TEXTILES: 2D shape to 3D product Make juggling balls**  With growing confidence generate ideas for an item, considering its purpose and the user/s.    Start to order the main stages of making a product. Identify a purpose and establish criteria for a successful product.  Understand how well products have been designed, made, what materials have been used and the construction technique  Know to make drawings with labels when designing.  When planning explain  their choice of materials and components **and** understand whether products can be recycled or reused.  Select a wider range of tools and techniques for making their product and explain their choice in relation to skill.  Mark, measure, cut out and score assemble components with more accuracy.    Start to think about their ideas as they make progress and be willing to change things if this helps them to improve their work.    Start to measure, tape or pin, cut and join fabric with some accuracy  Start to evaluate their product against original design criteria e.g. how well it meets  its intended purpose    Begin to disassemble and evaluate familiar products and consider the views of others to improve them.    Evaluate the key designs of individuals in design and technology has helped shape the world | |
| **Year 4** | **FOOD**  **Sandwiches – different kinds of sandwich for a packed or school lunch: wrap, bread, pitta.**  **School kitchen could set up as a competition/ challenge.**  Understand that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world.    Understand how to prepare and cook a  variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.    Know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.    Know that a healthy diet is made up from a variety and balance of different food and drink, as depicted in  ‘The Eat well plate’    Know that to be active and healthy, food and drink are needed to provide energy for the body. | | **ELECTRICAL**  **SYSTEMS**  **Design & make nightlight/reading lamp reflecting own hobby/user’s interests**.  Select a wider range of tools and techniques for making their product safely.    Start to join and combine materials and  components accurately in temporary and permanent ways.    Know how mechanical systems such as cams or pulleys or gears create movement.    Understand how more complex electrical  circuits and components can be used to create functional products.    Understand how to reinforce and strengthen a 3D framework.  Evaluate their products carrying out appropriate tests.    Start to evaluate their work both during and at the end of the assignment.    Be able to disassemble and evaluate familiar products and consider the views of others to improve them.    Evaluate the key designs of individuals in design and technology has helped shape the world. | | | **SHELL STRUCTURES - CAM**  **Design & make child’s toy**  Continue to learn how to program a computer to monitor changes in the environment and control their products  Know how to measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques.  Begin to use finishing techniques to strengthen and improve the appearance of their product using a range of equipment including ICT.  Evaluate their products carrying out appropriate tests.    Start to evaluate their work both during and at the end of the assignment.    Be able to disassemble and evaluate familiar products and consider the views of others to improve them.    Evaluate the key designs of individuals in design and technology has helped shape the world. | |
| **Year 5** | **FRAME**  **STRUCTURES**  **Creating bird homes and bird feeders – to enhance school environment**  Select appropriate materials, tools and techniques 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.  Begin to measure and mark out more accurately.    Demonstrate how to  use skills in using different tools and equipment safely and accurately with growing confidence cut and join with accuracy to ensure a good-quality finish to the product.    Weigh and measure accurately (time, dry ingredients, liquids).    Use finishing techniques to strengthen and improve the appearance of their product using a range of equipment including ICT.  Start to evaluate a product against the original design specification and by carrying out tests.    Evaluate their work both during and at the end of the assignment.    Begin to evaluate it personally and seek evaluation from others.    Evaluate the key designs of individuals in design and technology has helped shape the world. | | **CAD and textiles Combining**  **different material shapes using CAD Mobile phone cover**  Understand how mechanical systems such as cams or pulleys or gears create movement.    Know how more  complex electrical circuits and components can be used to create functional products and how to program a computer to monitor changes in the environment and control their products.    Understand that mechanical and electrical systems have an input, process and output.  Start to evaluate a product against the original design specification and by carrying out tests.    Evaluate their work both during and at the end of the assignment.    Begin to evaluate it personally and seek evaluation from others.    Evaluate the key designs of individuals in design and technology has helped shape the world. | | | **FOOD AND NUTRITION.**  **Food from distant places**  Begin to understand that seasons may affect the food available.    Understand how food is processed into ingredients that can be eaten or used in cooking.    Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.    Start to understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.    Begin to understand that different food and drink contain different substances – nutrients, water and fibre – that are needed for health. | |
| **Year 6** | **FOOD & NUTRITION**  **CELEBRATING CULTURE & SEASONALITY**  **Food from distant places**  Understand that seasons may affect the food available.    Understand how food is processed into ingredients that can be eaten or used in cooking.    Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.    Understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.    Know different food and drink contain different substances – nutrients, water and fibre – that are needed for health.  Use finishing techniques to strengthen and improve the appearance of their product using a range of equipment including ICT.  Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests.    Evaluate their work both during and at the end of the assignment.    Record their evaluations using drawings with labels.    Evaluate against their original criteria and suggest ways that their product could be improved. Evaluate the key designs of individuals in design and technology has helped shape the world. | | **FASHION DESIGNERS OVER TIME IN TOPS:**  **Making recycled clothes.**  Designers over time in the field of fashion: e.g. Westwood  Confidently select appropriate tools, materials, components and techniques and use them.  Aim to make and to achieve a quality product.    With confidence pin, sew and stitch materials together to create a product.    Demonstrate when make modifications as they go along. | | | **ELECTRICAL SYSTEMS & MECHANICAL**  **SYSTEMS**  e.g. fairground ride, board game, controllable toy vehicle, window display with  moving part  Confidently select appropriate tools, materials, components and techniques and use them.    Use tools safely and accurately.    Assemble components to make working models.    Construct products using permanent joining techniques.    Understand how mechanical systems such as cams or pulleys or gears create movement.    Know how more  complex electrical circuits and components can be used to create functional products and how to program a computer to monitor changes in the environment and control their products.    Know how to reinforce and strengthen a 3D framework.    Understand that mechanical and electrical systems have an input, process and output.    Use finishing techniques to strengthen and improve the appearance of their product using a range of equipment including ICT.  Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests.    Evaluate their work both during and at the end of the assignment.    Record their evaluations using drawings with labels.    Evaluate against their original criteria and suggest ways that their product could be improved. Evaluate the key designs of individuals in design and technology has helped shape the world. | |