Bishop Martin CE Primary School - Design Technology Subject Overview

	Autumn Two	Spring Two	Summer Two
2Yr Old	**Exploring and Using Media and Materials** Shows interest in different materials and textures, exploring objects by touching, manipulating, and experimenting with them.	**Exploring and Using Media and Materials** Explores more complex materials, like dough, sand, or water, showing curiosity in how they feel or change when manipulated.	**Exploring and Using Media and Materials** Uses a wider variety of tools and materials with increasing skill (e.g., using scissors to cut, making more defined marks with crayons, or using sponges and brushes to paint).
Nursery	**Exploring and Using Media and Materials** Begins to create closed shapes with continuous lines and starts to use these shapes to represent objects (e.g., circles for faces or other simple objects).	**Exploring and Using Media and Materials** Uses drawing to represent ideas like movement or sounds, showing more awareness of how to convey concepts. Begins to create closed shapes more intentionally, using these shapes to represent objects more recognisably.	**Exploring and Using Media and Materials** Creates closed shapes with continuous lines, using these shapes to represent objects more consistently.
Reception	**Exploring and Using Media and Materials** Use a range of media and materials to express ideas and feelings. Explore colour, shape, texture, and form through different materials (e.g., paint, crayons, clay, fabric). Start to combine materials to make simple models or creations (e.g., collages or sculptures).	**Exploring and Using Media and Materials** Use a variety of materials more confidently to explore texture and shape (e.g., combining different textures, using fabric, paint, or natural materials). Begin to create and develop simple representations (e.g., using playdough or other media to create figures or scenes). Show an increasing understanding of how to use different techniques (e.g., folding, rolling, layering) to manipulate materials.	**Exploring and Using Media and Materials** Confidently experiment with a wide range of media and materials to create their desired effects. Combine materials purposefully to achieve specific effects (e.g., mixing paint to create new colours, using recycled materials for collage). Use tools and techniques with increasing control and precision, such as cutting, sticking, and drawing.
Year One	**Cooking and Nutrition – Smoothies** Describe fruits and vegetables and explain how to identify fruits. Name a range of places that fruits and vegetables grow. Describe basic characteristics of fruit and vegetables. Prepare fruits and vegetables to make a smoothie.	**Structures - Constructing a Windmill** Follow design criteria to meet the needs of a user. Make a stable structure. Make functioning sails/blades that attach to the supporting structure. Improve their windmill.	**Mechanisms - Wheels and Axles** Choose and use the most suitable tool for cutting out different shapes accurately. Test and compare wheels of different shapes, thicknesses and smoothness. Estimate the middle of a circle. Design, draw and label a product that uses a simple mechanism. Identify the needs of the user. Make and finish a simple pull-along toy. Evaluate a product against simple design criteria and provide feedback.
Year Two	**Structures - Baby Bear's Chair** Identify man-made and natural structures. Identify stable and unstable structural shapes. Identify features that make a chair stable. Make a stable structure, following a demonstration. Explain how their ideas would be suitable for Baby Bear. Produce a model that supports a teddy. Explain how they made their model strong, stiff and stable.	**Textiles - Puppets (including sewing)** Sew a running stitch with regular-sized stitches and understand that both ends must be knotted. Prepare and cut fabric to make a pouch from a template. Use a running stitch to join the two pieces of fabric together. Decorate their pouch using the materials provided.	**Cooking and Nutrition - A Balanced Diet** Name the main food groups and identify foods that belong to each group. Describe the taste, feel and smell of a given food. Think of three different wrap ideas, considering flavour combinations. Construct a wrap that meets the design brief and their plan.

Cycle A

Year Three/Four	**Electrical Systems – Torches** Identify electrical products and explain why they are useful. Help to make a working switch. Identify the features of a torch and how it works. Know what makes a torch successful. Create suitable designs that fit the success criteria. Create a functioning torch with a switch.	**Mechanical Systems - Making a Slingshot Car** Describe key design improvements in the history of the automobile. Measure and compare the distance travelled by different cars. Use appropriate tools and materials to make mechanical cars. Draw exploded diagrams and annotated sketches. Assess the product against the design criteria. Conduct market research into existing products. Provide specific feedback and adjust my design to incorporate customer feedback.	**Cooking and Nutrition - Adapting a Recipe** Know the amount of an ingredient in a recipe is known as the 'quantity'. Know safety and hygiene are important when cooking. Know cooking techniques: sieving, measuring, mixing/stirring, cutting out and shaping. Know the importance of budgeting while planning ingredients for a recipe. Know that products often have a target audience.
Year Four/Five	**Cooking and Nutrition - Developing a Recipe** Identify the ingredients in spaghetti bolognese. Name a few unique ingredients that could be found in different recipes. Make simple changes to a basic bolognese recipe. Use a nutrition calculator to find out the nutrient information. Compare the nutritional values of two ingredient lists. Choose an ingredient list to turn into a recipe based on its nutritional value. Cut resistant foods. Demonstrate understanding of working with hot food by holding the handle and taking care when stirring. Match ingredients to the correct coloured chopping board to show an understanding of cross-contamination.	**Structures – Bridges** Identify stronger and weaker shapes. Recognise that supporting shapes can help increase the strength of a bridge. Identify beam, arch and truss bridges and describe their differences. Use triangles to create simple truss bridges that support a load. Cut beams to the correct size, using a cutting mat. Smooth down any rough-cut edges with sandpaper. Complete a bridge, with varying ranges of accuracy and finish, supported by the teacher.	**Digital World - Monitoring Devices** Know a device means equipment created for a certain purpose or job and that monitoring devices observe and record. Know a sensor is a tool or device that is designed to monitor, detect and respond to changes for a purpose. Know conditional statements (and, or, if booleans) in programming are a set of rules which are followed if certain conditions are met.
Year Five/Six	**Electrical Systems - Steady Hand Game** Know what is meant by 'form' and 'function'. Identify the components of a steady hand game. Design a steady hand game. Create a secure base for their game, with neat edges. Make and test a functioning circuit and assemble it within a case.	**Cooking and Nutrition - Come Dine with Me** Find a suitable recipe for their course. Record the relevant ingredients and equipment needed. Follow a recipe, including using the correct quantities of each ingredient. Write a recipe, explaining the process taken. Explain where certain key foods come from before they appear on the supermarket shelf.	**Textiles – Waistcoats** Consider a range of factors in their design criteria and use this to create a waistcoat design. Use a template to mark and cut out a design. Use a running stitch to join fabric to make a functional waistcoat. Attach a secure fastening, as well as decorative objects.

Cycle B

Year Three/Year Four	**Textiles – Fastenings** Use a cross-stitch to join two pieces of fabric together. Design and cut the template for a cushion. Use cross-stitch and appliqué to decorate a cushion face. Make a cushion that includes appliqué and cross-stitch.	**Cooking and Nutrition - Eating Seasonally** Explain that fruits and vegetables grow in different countries based on their climates. Understand that seasonal fruits and vegetables grow in each season. Understand that eating seasonal fruit and vegetables positively affects the environment. Design a tart recipe using seasonal ingredients.	**Structures - Constructing a Castle** Draw and label a simple castle that includes the most common features. Recognise that a castle is made up of multiple 3D shapes. Design a castle with key features which satisfy a given purpose. Score or cut along lines on the net of a 2D shape. Use glue to securely assemble geometric shapes. Utilise skills to build a complex structure from simple geometric shapes.
Year Four/Year Five	**Electrical Systems – Torches** Identify electrical products and explain why they are useful. Help to make a working switch. Identify the features of a torch and how it works. Know what makes a torch successful. Create suitable designs that fit the success criteria. Create a functioning torch with a switch.	**Mechanical Systems - Making a Slingshot Car** Describe key design improvements in the history of the automobile. Measure and compare the distance travelled by different cars. Use appropriate tools and materials to make mechanical cars. Draw exploded diagrams and annotated sketches. Assess the product against the design criteria. Conduct market research into existing products. Provide specific feedback and adjust my design to incorporate customer feedback.	**Cooking and Nutrition - Adapting a Recipe** Know the amount of an ingredient in a recipe is known as the 'quantity'. Know safety and hygiene are important when cooking. Know cooking techniques: sieving, measuring, mixing/stirring, cutting out and shaping. Know the importance of budgeting while planning ingredients for a recipe. Know that products often have a target audience.
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