Holy Trinity CofE Primary School
Design & Technology Progression Document

Area	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Textiles	Design • I can discuss what a good design needs. • I can design a simple pattern with paper. • I can design a bookmark. • I can choose from available materials. Make • I can develop fine motor/cutting skills with scissors. • I can explore fine motor/threading and weaving (under, over technique) with a variety of materials. • I can use a prepared needle and wool to practise threading. Evaluate • I can reflect on a finished product and compare to my design.	Design • I can use a template to create a design for a puppet. Make • I can cut fabric neatly with scissors. • I can use joining methods to decorate a puppet. • I can sequence steps for construction. Evaluate • I can reflect on a finished product, explaining likes and dislikes	Design • I can design a pouch. Make • I can select and cut fabrics for sewing. • I can decorate a pouch using fabric glue or running stitch. • I can thread a needle. • I can sew running stitch, with evenly spaced, neat, even stitches to join fabric. • I can neatly pin and cut fabric using a template. Evaluate • I can troubleshoot scenarios posed by teacher. • I can evaluate the quality of the stitching on others' work. • I can discuss the success of my stitching against the success criteria. • I can identify aspects of my peers' work that I particularly like and why.				Design • I can design a waistcoat in accordance to a specification linked to set of design criteria. • I can annotate designs, to explain their decisions. Make • I can use a template when cutting fabric to ensure they achieve the correct shape. • I can use pins effectively to secure a template to fabric without creases or bulges. • I can mark and cut fabric accurately, in accordance with my design. • I can sewing a strong running stitch, making small, neat stitches and following the edge. • I can tie strong knots. • I can decorate a waistcoat, attaching features (such as appliqué) using thread. • I can finish the waistcoat with a secure fastening • I know different decorative stitches. I can sew accurately with evenly spaced, neat stitches. Evaluate • I can reflect on my work continually throughout the design, make and evaluate process.

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Structures	Design • I can make verbal plans and material choices. Make • I can improve fine motor/scissor skills with a variety of materials. • I can join materials in a variety of ways (temporary and permanent). • I can join different materials together. • I can describe my creation, and how I intend to put it together. Evaluate • I can give a verbal evaluation of their own and others' work with adult support. • I can check to see if my model matches my plan. • I can considering what I would do differently if I were to do it again. • I can describe my favourite and least favourite part of my work.	Design • I know the importance of a clear design criteria. • I can include individual preferences and requirements in a design. Make • I can make stable structures from card. • I can follow instructions to cut and assemble the supporting structure of a windmill. • I can make functioning turbines and axles which are assembled into a main supporting structure. • I can find the middle of an object. • I can puncture holes. • I can add weight to structures. • I can create supporting structures. • I can cut evenly and carefully. Evaluate • I can evaluate a windmill according to the design criteria, testing whether the structure is strong and stable and altering it if it isn't. • I can suggest points for improvements.	Design • I can generate and communicate ideas using sketching and modelling. • I know about different types of structures, found in the natural world and in everyday objects. Make • I can make a structure according to design criteria. • I can create joints and structures from paper/card and tape. • I can build a strong and stiff structure by folding paper. Evaluate • I can explore the features of structures. • I can compare the stability of different shapes. • I can test the strength of own structures. • I can identify the weakest part of a structure. • I can evaluate the strength, stiffness and stability of own structure.	Design • I can design a stable pavilion structure that is aesthetically pleasing and selecting materials to create a desired effect. • I can build frame structures designed to support weight Make • I can create a range of different shaped frame structures. • I can make a variety of free-standing frame structures of different shapes and sizes. • I can select appropriate materials to build a strong structure and cladding. • I can reinforce corners to strengthen a structure. • I can create a design in accordance with a plan. • I know how to create different textural effects with materials. Evaluate • I can evaluate structures made by the class. • I can describe what characteristics of a design and construction made it the most effective. • I can consider effective and ineffective designs.			•

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Area	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Electrical Systems					Design • I can carry out research based on a given topic (e.g. The Romans) to develop a range of initial ideas. • I can generate a final design for the electric poster with consideration to the client's needs and design criteria. • I can design an electric poster that fits the requirements of a given brief. • I can plan the positioning of the bulb (circuit component) and its purpose. Make • I can create a final design for the electric poster. • I can mount the poster onto corrugated card to improve its strength and allow it to withstand the weight of the circuit on the rear. • I can measure and mark materials out using a template or ruler. • I can fit an electrical component (bulb). I can learn ways to give the final product a higher quality finish (e.g. framing to conceal a roughly cut edge). Evaluate • I can learn to give and accept constructive criticism on own work and the work of others. • I can test the success of initial ideas against the design criteria and justifying opinions. • I can revisit the requirements of the client to review developing design ideas and check that they fulfil their needs.		Design • I can design a steady hand game - identifying and naming the components required. • I can draw a design from three different perspectives. • I can generate ideas through sketching and discussion. • I can model ideas through prototypes. • I understand the purpose of products (toys), including what is meant by 'fit for purpose' and 'form over function'. Make • I can construct a stable base for a game. • I can accurately cut, fold and assemble a net. • I can decorate the base of the game to a high-quality finish. • I can make and test a circuit. • I can incorporate a circuit into a base. Evaluate • I can test own and others finished games, identifying what went well and making suggestions for improvement. • I can gather images and information about existing children's toys. • I can analyse a selection of existing children's toys.

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Mechanical Systems				Design • I can design a toy which uses a pneumatic system. I can develop design criteria from a design brief. • I can generate ideas using thumbnail sketches and exploded diagrams. • I know that different types of drawings are used in design to explain ideas clearly. Make • I can create a pneumatic system to create a desired motion. • I can build secure housing for a pneumatic system. • I can use syringes and balloons to create different types of pneumatic systems to make a functional and appealing pneumatic toy. • I can select materials due to their functional and aesthetic characteristics. • I can manipulate materials to create different effects by cutting, creasing, folding and weaving. Evaluate • I can use views of others to improve designs. • I can test and modifying the outcome, suggesting improvements. • I understand the purpose of exploded-diagrams through the eyes of a designer and their client.		Design • I can identify a wide range of needs and potential barriers through market research. • I can create more complex design criteria that require considering detailed user needs, environmental impact, materials and cost. • I am beginning to use more complex annotated sketches, such as cross-sectional and exploded diagrams and pattern pieces in design. • I can use a series of prototypes to refine and improve their designs. Make • I consistently apply safety instructions. • I select appropriate scissors to handle delicate cutting tasks and challenging materials. • I can cut patterns and drawings accurately. • I can use hot glue guns safely. • I can recognise that hot glue is useful for joining materials that need a strong bond that sets quickly. Evaluate • I can reflect on the usability, aesthetics, innovation and sustainability of products and discussing how design choices impact these aspects. • I can assess my designs against a more complex set of design criteria that includes functionality, aesthetics, user experience, sustainability and cost. I can consider alternative materials, tools or techniques that could enhance the product. • I can incorporate feedback from peers or users improve their product further, explaining the changes they made and the impact they had.	

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Mechanical Systems	Design • I can design a soup recipe as a class. • I can design soup packaging. Make • I can chop plasticine safely. • I can chop vegetables with support. Evaluate • I can taste the soup and giving opinions. • I can describe some of the following when tasting food: look, feel, smell and taste. • I can choose my favourite packaging design and explain why.	Design • I can design smoothie carton packaging by-hand. Make • I can chop fruit and vegetables safely to make a smoothie. • I can juice fruits safely to make a smoothie. Evaluate • I can taste and evaluate different food combinations. • I can describe appearance, smell and taste. • I can suggest information to be included on packaging. • I can compare my own smoothie with someone else's.	Design • I can design three wrap ideas based on a food combination which work well together. Make • I can chop foods safely to make a wrap. • I can construct a wrap that meets a design brief. • I can grate foods to make a wrap. • I can snip smaller foods instead of cutting. Evaluate • I can describe the taste, texture and smell of fruit and vegetables. • I can taste test food combinations and final products. • I can describe the information that should be included on a label. • I can evaluate food by giving a score.	Design • I can design a recipe for a savoury tart. Make • I can follow the instructions within a recipe. • I can taste seasonal ingredients. • I can select seasonal ingredients. • I can peel ingredients safely. • I can cut safely with a vegetable knife. Evaluate • I can establish and use design criteria to help test and review dishes. • I can describe the benefits of seasonal fruits and vegetables and the impact on the environment. • I can suggest points for improvement when making a seasonal tart.	Design • I can design a biscuit within a given budget, drawing upon previous taste testing judgements. • I can design packaging for a biscuit that targets a specific group. Make • I can follow a baking recipe, including the preparation of ingredients. • I can cook safely, following basic hygiene rules. • I can adapt a recipe to meet the requirements of a target audience. • I can use a cuboid net to create packaging. Evaluate • I can evaluate a recipe, considering: taste, smell, texture and appearance. • I can describe the impact of the budget on the selection of ingredients. • I can evaluate and compare a range of food products. • I can suggest modifications to a recipe	Design • I can adapt a traditional recipe, understanding that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients. • I can write an amended method for a recipe to incorporate the relevant changes to ingredients. • I can design appealing packaging to reflect a recipe. • I can research existing recipes to inform ingredient choices. Make • I can cut and prepare vegetables safely. • I can use equipment safely, including knives, hot pans and hobs. • I know how to avoid cross-contamination. • I can follow a step by step method carefully to make a recipe Evaluate • I can identify the nutritional differences between different products and recipes. • I can identify and describe healthy benefits of food groups.	Design • I can write a recipe, explaining the key steps, method and ingredients. • I can include facts and drawings from research undertaken. Make • I can follow a recipe, including using the correct quantities of each ingredient. • I can adapting a recipe based on research. • I can working to a given timescale. • I can work safely and hygienically with independence. Evaluate • I can evaluate a recipe, considering: taste, smell, texture and origin of the food group. • I can taste test and score final products. • I can suggest and write up points of improvements when scoring others' dishes, and when evaluating my own throughout the planning, preparation and cooking process. • I can evaluate health and safety in production to minimise cross contamination.

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Digital World		•	•	•	Design • I can write design criteria for a programmed timer (Micro:bit). • I can explore different mindfulness strategies. • I can apply the results of my research to further inform my design criteria. • I can develop a prototype case for my mindful moment timer. • I can use and manipulate shapes and clipart by using computer-aided design (CAD), to produce a logo. • I can follow a list of design requirements. Make • I can develop a prototype case for my mindful moment timer. • I can create 3D structures using modelling materials. • I can programme a micro:bit in the Microsoft micro:bit editor, to time a set number of seconds/minutes upon button press. Evaluate • I can investigate and analyse a range of timers by identifying and comparing their advantages and disadvantages. • I can evaluate my Micro:bit program against points on my design criteria and amending them to include any changes I made. • I can document and evaluate my project. • I understand what a logo is and why they are important in the world of design and business. • I can test my program for bugs (errors in the code). • I can find and fix the bugs (debug) in my code. • I can gather feedback from the user to make suggested improvements to a product.		Design • I can write a design brief from information submitted by a client. • I can develop design criteria to fulfil the client's request. • I can consider and suggest additional functions for my navigation tool. • I can develop a product idea through annotated sketches. • I can place and manoeuvre 3D objects, using CAD. • I can change the properties of, or combine one or more 3D objects, using CAD. Make • I can consider materials and their functional properties, especially those that are sustainable and recyclable (for example, cork and bamboo). • I can explain material choices and why they were chosen as part of a product concept. • I can programme a N,E, S, W cardinal compass. Evaluate • I can explain how my program fits the design criteria and how it would be useful as part of a navigation tool. • I can develop an awareness of sustainable design. • I can ientify key industries that utilise 3D CAD modelling and explaining why. • I can describe how the product concept fits the client's request and how it will benefit the customers. • I can explain the key functions in my program, including any additions. • I can explain how my program fits the design criteria and how it would be useful as part of a navigation tool. • I can explain the key functions and features of my navigation tool to the client as part of a product concept pitch. • I can demonstrate a functional program as part of a product concept pitch.