



Holywell Primary School

Tolpits Lane, Watford, Herts, WD18 6LL
Tel: 01923 225188 email: admin@holywell.herts.sch.uk
Headteacher: Mr Coert van Straaten MA. Ed, Dip Edu, NPQH

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Design and Technology - Subject coverage 2022-2023

Cooking and Nutrition					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
DT aspect- Food (Preparing fruit and vegetables) Project: Design, make and evaluate fruit smoothie for your peers at a school.	DT aspect- Food (Preparing fruit and vegetables) Project: Design, make and evaluate a fruit ice pop for yourself.	DT aspect- Food (Healthy and Varied diet) Project: Design, make and evaluate a healthy sandwich for a picnic.	DT aspect- Food (Healthy and Varied diet) Project: Design, make and evaluate healthy pizzas for yourself.	DT aspect- Food (Celebrating culture and diversity) Project: Design, make and evaluate a soup using seasonal vegetables with homemade bread.	DT aspect- Food (Celebrating culture and diversity) Project: Design, make and evaluate a chosen main meal from a culture of your choice.
Prior learning <ul style="list-style-type: none"> • Experience of common fruit and vegetables, undertaking sensory activities i.e. appearance taste and smell. 	Prior learning <ul style="list-style-type: none"> • Experience of cutting soft fruit and vegetables using appropriate utensils. 	Prior learning <ul style="list-style-type: none"> • Know some ways to prepare ingredients safely and hygienically. 	Prior learning <ul style="list-style-type: none"> • Have some basic knowledge and understanding about healthy eating and <i>The eatwell plate</i>. • Have used some equipment and utensils and prepared and combined 	Prior learning <ul style="list-style-type: none"> • Have knowledge and understanding about food hygiene, nutrition, healthy eating and a varied diet. 	Prior learning <ul style="list-style-type: none"> • Be able to use appropriate equipment and utensils, and apply a range of techniques for measuring out, preparing and combining ingredients.

			ingredients to make a product.		
Designing <ul style="list-style-type: none"> • Design appealing products for a particular user based on simple design criteria. 	Designing <ul style="list-style-type: none"> • Generate initial ideas and design criteria through investigating a variety of fruit and vegetables. • Communicate these ideas through talk and drawings. 	Designing <ul style="list-style-type: none"> • Generate and clarify ideas through discussion with peers and adults to develop design criteria including appearance, taste, texture and aroma for an appealing product for a particular user and purpose. 	Designing <ul style="list-style-type: none"> • Use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas. 	Designing <ul style="list-style-type: none"> • Generate innovative ideas through research and discussion with peers and adults to develop a design brief and criteria for a design specification. 	Designing <ul style="list-style-type: none"> • Explore a range of initial ideas, and make design decisions to develop a final product linked to user and purpose. • Use words, annotated sketches and information and communication technology as appropriate to develop and communicate ideas.
Making <ul style="list-style-type: none"> • Use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely. 	Making <ul style="list-style-type: none"> • Select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product. 	Making <ul style="list-style-type: none"> • Plan the main stages of making. • Select and use a range of appropriate tools with some accuracy e.g. cutting, joining and finishing. 	Making <ul style="list-style-type: none"> • Select and use appropriate utensils and equipment to prepare and combine ingredients. • Select from a range of ingredients to make appropriate food products, thinking about sensory characteristics. 	Making <ul style="list-style-type: none"> • Write a step-by-step recipe, including a list of ingredients, equipment and utensils 	Making <ul style="list-style-type: none"> • Select and use appropriate utensils and equipment accurately to measure and combine appropriate ingredients. • Make, decorate and present the food product appropriately for the intended user and purpose.
Evaluating	Evaluating	Evaluating	Evaluating	Evaluating	Evaluating

<ul style="list-style-type: none"> • Taste and evaluate a range of fruit and vegetables to determine the intended user's preferences. 	<ul style="list-style-type: none"> • Evaluate ideas and finished products against design criteria, including intended user and purpose 	<ul style="list-style-type: none"> • Carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs. 	<ul style="list-style-type: none"> • Evaluate the ongoing work and the final product with reference to the design criteria and the views of others. 	<ul style="list-style-type: none"> • Carry out sensory evaluations of a range of relevant products and ingredients. Record the evaluations using e.g. tables/graphs/charts such as star diagrams. 	<ul style="list-style-type: none"> • Evaluate the final product with reference back to the design brief and design specification, taking into account the views of others when identifying improvements. • Understand how key chefs have influenced eating habits to promote varied and healthy diets.
Technical knowledge and understanding <ul style="list-style-type: none"> • Understand where a range of fruit and vegetables come from e.g. farmed or grown at home. • Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of <i>The eatwell plate</i>. 	Technical knowledge and understanding <ul style="list-style-type: none"> • Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of <i>The eatwell plate</i>. • Know and use technical and sensory vocabulary relevant to the project. 	Technical knowledge and understanding <ul style="list-style-type: none"> • Know how to use appropriate equipment and utensils to prepare and combine food. 	Technical knowledge and understanding <ul style="list-style-type: none"> • Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught. • Know and use relevant technical 	Technical knowledge and understanding <ul style="list-style-type: none"> • Know how to use utensils and equipment including heat sources to prepare and cook food. 	Technical knowledge and understanding <ul style="list-style-type: none"> • Understand about seasonality in relation to food products and the source of different food products. • Know and use relevant technical and sensory vocabulary.

Textiles					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

DT aspect- Textiles (Templates and joining techniques) Project: Design, make and evaluate a soft bag to carry soft toys at story time.	DT aspect- Textiles (Templates and joining techniques) Project: Design, make and evaluate a glove puppet for younger children to play with.	DT aspect- Textiles (2D shapes to 3D products) Project: Design, make and evaluate a purse or wallet for an adult.	DT aspect- Textiles (2D shapes to 3D products) Project: Design, make and evaluate a pencil case for yourself.	DT aspect- Textiles (Combining different fabric shapes) Project: Design, make and evaluate a tool belt with a fastener for an adult.	DT aspect- Textiles (Combining different fabric shapes) Project: Design, make and evaluate an iPad case for the school iPad's.
Prior learning <ul style="list-style-type: none"> • Explored and used different fabrics. • Cut and joined fabrics with simple techniques. 	Prior learning <ul style="list-style-type: none"> • Thought about the user and purpose of products. 	Prior learning <ul style="list-style-type: none"> • Have joined fabric in simple ways by gluing and stitching. 	Prior learning <ul style="list-style-type: none"> • Have used simple patterns and templates for marking out. • Have evaluated a range of textile products. 	Prior learning <ul style="list-style-type: none"> • Experience of basic stitching, joining textiles and finishing techniques. 	Prior learning <ul style="list-style-type: none"> • Experience of making and using simple pattern pieces.
Designing <ul style="list-style-type: none"> • Design a functional and appealing product for a chosen user and purpose based on simple design criteria. 	Designing <ul style="list-style-type: none"> • Generate, develop, model and communicate their ideas as appropriate through talking, drawing, templates, mock-ups and information and communication technology. 	Designing <ul style="list-style-type: none"> • Generate realistic ideas through discussion and design criteria for an appealing, functional product fit for purpose and specific user/s. 	Designing <ul style="list-style-type: none"> • Produce annotated sketches, prototypes, final product sketches and pattern pieces. 	Designing <ul style="list-style-type: none"> • Generate innovative ideas by carrying out research including surveys, interviews and questionnaires. 	Designing <ul style="list-style-type: none"> • Develop, model and communicate ideas through talking, drawing, templates, mock-ups and prototypes and, where appropriate, computer-aided design. • Design purposeful, functional, appealing products for the intended user that are fit for purpose based

<ul style="list-style-type: none"> • Understand how simple 3-D textile products are made, using a template to create two identical shapes. • Understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling. 	<ul style="list-style-type: none"> • Explore different finishing techniques e.g. using painting, fabric crayons, stitching, sequins, buttons and ribbons. • Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> • Know how to strengthen, stiffen and reinforce existing fabrics. • Understand how to securely join two pieces of fabric together. 	<ul style="list-style-type: none"> • Understand the need for patterns and seam allowances. • Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> • A 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics. 	<ul style="list-style-type: none"> • Fabrics can be strengthened, stiffened and reinforced where appropriate.
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Structures					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
DT aspect-Structures (Freestanding structures) Project: Design, make and evaluate an enclosure for a farm or zoo animal of your choice.	DT aspect-Structures (Freestanding structures) Project: Design, make and evaluate a playground equipment you would like to see at the school.	DT aspect-Structures (Shell Structures) Project: Design, make and evaluate a party box to organise your birthday party.	DT aspect-Structures (Shell Structures) Project: Design, make and evaluate a mystery box for yourself.	DT aspect-Structures (Frame structures) Project: Design, make and evaluate a playhouse for younger children.	DT aspect-Structures (Frame structures) Project: Design, make and evaluate a bus shelter for the local community.
Prior learning • Experience of using construction kits to	Prior learning • Experience of different methods of joining card and paper.	Prior learning • Experience of using different joining, cutting and finishing	Prior learning • A basic understanding of 2-D and 3-D shapes in	Prior learning • Experience of using measuring, marking out, cutting, joining,	Prior learning • Basic understanding of what structures are and how it has made

build walls, towers and frameworks. • Experience of using of basic tools e.g. scissors or hole punches with construction materials e.g. plastic, card.		techniques with paper and card.	mathematics and the physical properties and everyday uses of materials in science.	shaping and finishing techniques with construction materials.	stronger, stiffer and more stable.
Designing • Generate ideas based on simple design criteria and their own Experiences, explaining what they could make.	Designing • Develop, model and communicate their ideas through talking, mock-ups and drawings.	Designing • Generate realistic ideas and design criteria collaboratively through discussion, focusing on the needs of the user and purpose of the product.	Designing • Develop ideas through the analysis of existing products. Use annotated sketches and prototypes to model and communicate ideas.	Designing • Carry out research into user needs and existing products, using surveys, interviews, questionnaires and web-based resources.	Designing • Develop a simple design specification to guide the development of their ideas and products, taking account of constraints including time, resources and cost. • Generate, develop and model innovative ideas, through discussion, prototypes and annotated sketches.
Making • Plan by suggesting what to do next. • Select and use tools, skills and techniques, explaining their choices	Making • Select new and reclaimed materials and construction kits to build their structures. • Use simple finishing techniques suitable	Making • Order the main stages of making. • Select and use appropriate tools to measure, mark out, cut, score, and shape and assemble with some accuracy.	Making • Explain their choice of materials according to functional properties and aesthetic qualities. • Use finishing techniques suitable	Making • Formulate a clear plan, including a systematic list of what needs to be done and lists of resources to be used.	Making • Competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks.

	for the structure they are creating.		for the product they are creating.		<ul style="list-style-type: none"> • Use finishing and decorative techniques suitable for the product they are designing and making.
Evaluating <ul style="list-style-type: none"> • Explore a range of existing freestanding structures in the school and local environment e.g. everyday products and buildings. 	Evaluating <ul style="list-style-type: none"> • Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria. 	Evaluating <ul style="list-style-type: none"> • Investigate and evaluate a range of existing shell structures including the materials, components and techniques that have been used. 	Evaluating <ul style="list-style-type: none"> • Test and evaluate their own products against design criteria and the intended user and purpose. 	Evaluating <ul style="list-style-type: none"> • Investigate and evaluate a range of existing frame structures. 	Evaluating <ul style="list-style-type: none"> • Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests. • Research key events and individuals relevant to frame structures.
Technical knowledge and understanding <ul style="list-style-type: none"> • Know how to make freestanding structures stronger, stiffer and more stable. 	Technical knowledge and understanding <ul style="list-style-type: none"> • Know and use technical vocabulary relevant to the project. 	Technical knowledge and understanding <ul style="list-style-type: none"> • Develop and use knowledge of how to construct strong, stiff shell structures. 	Technical knowledge and understanding <ul style="list-style-type: none"> • Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes. 	Technical knowledge and understanding <ul style="list-style-type: none"> • Understand how to strengthen, stiffen and reinforce 3-D frameworks. 	Technical knowledge and understanding <ul style="list-style-type: none"> • Know and use technical vocabulary relevant to the project.

			<ul style="list-style-type: none"> • Know and use technical vocabulary relevant to the project. 		
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Mechanical systems

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
DT aspect-Mechanisms (Sliders and levers) Project: Design, make and evaluate a group storybook for your friends based on a traditional tale	DT aspect-Mechanisms (Sliders and levers) Project: Design, make and evaluate a greeting card for your friend's birthday.	DT aspect-Mechanical systems (Levers and Linkages) Project: Design, make and evaluate a 3D bin to promote recycling	DT aspect-Mechanical systems (Levers and Linkages) Project: Design, make and evaluate a save our ocean poster.	DT aspect-Mechanical system (Pulleys or gears) Project: Design, make and evaluate a ferrous wheel for entertainment purposes.	DT aspect-Mechanical system (Pulleys or gears) Project: Design, make and evaluate a controllable toy vehicle with gears or pulleys for yourself.
Prior learning <ul style="list-style-type: none"> • Early experiences of working with paper and card to make simple flaps and hinges. 	Prior learning <ul style="list-style-type: none"> • Experience of simple cutting, shaping and joining skills using scissors, glue, paper fasteners and masking tape. 	Prior learning <ul style="list-style-type: none"> • Explored and used mechanisms such as flaps, sliders and levers 	Prior learning <ul style="list-style-type: none"> • Gained experience of basic cutting, joining and finishing techniques with paper and card. 	Prior learning <ul style="list-style-type: none"> • Experience of axles, axle holders and wheels that are fixed or free moving. • Basic understanding of electrical circuits, simple switches and components. 	Prior learning <ul style="list-style-type: none"> • Experience of cutting and joining techniques with a range of materials including card, plastic and wood. • An understanding of how to strengthen and stiffen structures.
Designing	Designing	Designing	Designing	Designing	Designing

<ul style="list-style-type: none"> • Generate ideas based on simple design criteria and their own experiences, explaining what they could make. 	<ul style="list-style-type: none"> • Develop, model and communicate their ideas through drawings and mock-ups with card and paper. 	<ul style="list-style-type: none"> • Generate realistic ideas and their own design criteria through discussion, focusing on the needs of the user. 	<ul style="list-style-type: none"> • Use annotated sketches and prototypes to develop, model and communicate ideas. 	<ul style="list-style-type: none"> • Generate innovative ideas by carrying out research using surveys, interviews, questionnaires and web-based resources. 	<ul style="list-style-type: none"> • Develop a simple design specification to guide their thinking. • Develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views.
Making <ul style="list-style-type: none"> • Plan by suggesting what to do next. • Select and use tools, explaining their choices, to cut, shape and join paper and card. 	Making <ul style="list-style-type: none"> Select and use tools, explaining their choices, to cut, shape and join paper and card. • Use simple finishing techniques suitable for the product they are creating. 	Making <ul style="list-style-type: none"> • Order the main stages of making. 	Making <ul style="list-style-type: none"> • Select from and use appropriate tools with some accuracy to cut, shape and join paper and card. • Select from and use finishing techniques suitable for the product they are creating. 	Making <ul style="list-style-type: none"> • Produce detailed lists of tools, equipment and materials. Formulate step-by-step plans and, if appropriate, allocate tasks within a team. 	Making <ul style="list-style-type: none"> • Select from and use a range of tools and equipment to make products that that are accurately assembled and well finished. Work within the constraints of time, resources and cost.
Evaluating <ul style="list-style-type: none"> • Explore a range of existing books and everyday products that use simple sliders and levers. • Explore and use sliders and levers. 	Evaluating <ul style="list-style-type: none"> • Evaluate their product by discussing how well it works in relation to the purpose and the user and whether it meets design criteria. 	Evaluating <ul style="list-style-type: none"> • Investigate and analyse books and, where available, other products with lever and linkage mechanisms. 	Evaluating <ul style="list-style-type: none"> • Evaluate their own products and ideas against criteria and user needs, as they design and make. 	Evaluating <ul style="list-style-type: none"> • Compare the final product to the original design specification. • Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. 	Evaluating <ul style="list-style-type: none"> • Consider the views of others to improve their work. • Investigate famous manufacturing and engineering companies relevant to the project.

Technical knowledge and understanding <ul style="list-style-type: none"> • Understand that different mechanisms produce different types of movement. 	Technical knowledge and understanding <ul style="list-style-type: none"> • Understand that different mechanisms produce different types of movement. • Know and use technical vocabulary relevant to the project. 	Technical knowledge and understanding <ul style="list-style-type: none"> • Understand and use lever and linkage mechanisms. 	Technical knowledge and understanding <ul style="list-style-type: none"> • Distinguish between fixed and loose pivots. • Know and use technical vocabulary relevant to the project. 	Technical knowledge and understanding <ul style="list-style-type: none"> • Understand that mechanical and electrical systems have an input, process and an output. 	Technical knowledge and understanding <ul style="list-style-type: none"> • Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement. • Know and use technical vocabulary relevant to the project

Mechanisms		Electrical Mechanisms			
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
DT aspect- Wheels and Axles (Mechanisms) Project: Design, make and evaluate a shopping trolley for a	DT aspect- Wheels and Axles (Mechanisms) Project: Design, make and evaluate an emergency service	DT aspect- Electrical systems (Simple circuits and switches) Project: Design, make and evaluate a	DT aspect- Electrical systems (Simple circuits and switches) Project: Design, make and evaluate	DT aspect- Electrical systems (Complex switches and circuits) Project: Design, make and evaluate an	DT aspect- Structures (Frame structures) Project: Design, make and evaluate a

family member to make shopping easier.	vehicle for people who help us for work.	noise making toy for younger children	reading lamp for yourself.	alarm for the school shed.	security lighting system for the school.
Prior learning <ul style="list-style-type: none"> • Assembled vehicles with moving wheels using construction kits. • Explore moving vehicles through play. 	Prior learning <ul style="list-style-type: none"> • Assembled vehicles with moving wheels using construction kits. • Explore moving vehicles through play. 	Prior learning <ul style="list-style-type: none"> • Constructed a simple series electrical circuit in science, using bulbs, switches and buzzers. and glue. 	Prior learning <ul style="list-style-type: none"> • Cut and joined a variety of construction materials, such as wood, card, plastic, reclaimed materials and glue. 	Prior learning <ul style="list-style-type: none"> • Understanding of the essential characteristics of a series circuit and experience of creating a battery-powered, functional, electrical product. 	Prior learning <ul style="list-style-type: none"> • Initial experience of using computer control software and an interface box or a standalone box, e.g. writing and modifying a program to make a light flash on and off.
Designing <ul style="list-style-type: none"> • Generate initial ideas and simple design criteria through talking and using own experiences. 	Designing <ul style="list-style-type: none"> • Generate initial ideas and simple design criteria through talking and using own experiences. 	Designing <ul style="list-style-type: none"> • Gather information about needs and wants, and develop design criteria to inform the design of products that are fit for purpose, aimed at particular individuals or groups. 	Designing <ul style="list-style-type: none"> • Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross-sectional and exploded diagrams. 	Designing <ul style="list-style-type: none"> • Use research to develop a design specification for a functional product that responds automatically to changes in the environment. Take account of constraints including time, resources and cost. 	Designing <ul style="list-style-type: none"> • Generate and develop innovative ideas and share and clarify these through discussion. • Communicate ideas through annotated sketches, pictorial representations of electrical circuits or circuit diagrams.
Making <ul style="list-style-type: none"> • Select from and use a range of tools and equipment to perform practical tasks such as cutting and joining 	Making <ul style="list-style-type: none"> • Select from and use a range of tools and equipment to perform practical tasks such as cutting and joining 	Making <ul style="list-style-type: none"> • Order the main stages of making. • Select from and use tools and equipment to cut, shape, join and 	Making <ul style="list-style-type: none"> • Select from and use materials and components, including construction materials and electrical components 	Making <ul style="list-style-type: none"> • Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components. 	Making <ul style="list-style-type: none"> • Create and modify a computer control program to enable an electrical product to work automatically in

to allow movement and finishing.	to allow movement and finishing.	finish with some accuracy.	according to their functional properties and aesthetic qualities.		response to changes in the environment.
Evaluating <ul style="list-style-type: none"> • Explore and evaluate a range of products with wheels and axles. 	Evaluating <ul style="list-style-type: none"> • Explore and evaluate a range of products with wheels and axles. 	Evaluating <ul style="list-style-type: none"> • Investigate and analyse a range of existing battery-powered products. in their work. 	Evaluating <ul style="list-style-type: none"> • Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work. 	Evaluating <ul style="list-style-type: none"> • Continually evaluate and modify the working features of the product to match the initial design specification. 	Evaluating <ul style="list-style-type: none"> • Test the system to demonstrate its effectiveness for the intended user and purpose. • Investigate famous inventors who developed ground-breaking electrical systems and components.
Technical knowledge and understanding <ul style="list-style-type: none"> • Explore and use wheels, axles and axle holders. • Distinguish between fixed and freely moving axles. 	Technical knowledge and understanding <ul style="list-style-type: none"> • Explore and use wheels, axles and axle holders. 	Technical knowledge and understanding <ul style="list-style-type: none"> • Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers. 	Technical knowledge and understanding <ul style="list-style-type: none"> • Apply their understanding of computing to program and control their products. • Know and use technical vocabulary relevant to the project. 	Technical knowledge and understanding <ul style="list-style-type: none"> • Understand and use electrical systems in their products. 	Technical knowledge and understanding <ul style="list-style-type: none"> • Apply their understanding of computing to program, monitor and control their products.