



Design Technology Curriculum



Topic - Step Right Up!
Year 1 - Autumn
Subject - Design Technology



Prior Learning	In Reception, children will have had experience of using construction kits to build towers, experience of using basic tools e.g. scissors with construction card and experience of methods of joining using glue.
What Comes Next	In Year Two, the children will further explore producing freestanding structures when they design and make houses based on a Great Fire of London theme.
Key Vocabulary	Slider, lever, pivot, slot bridge/guide, card, masking tape paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards, design, make, evaluate, user, purpose, ideas, design criteria, product, function

Notes and Guidance	Skills	Knowledge
POAP – Mechanisms, Sliders and Levers Outcome - A toy that a child can use to play with	Designing • Generate ideas based on simple design criteria and their own experiences, explaining what they could make. • Develop, model and communicate their ideas through drawings and mock-ups with card and paper. Making • Plan by suggesting what to do next. • 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. Evaluating • Explore a range of existing books and everyday products that use simple sliders and levers. • Evaluate their product by discussing how well it works in relation to the purpose and the user and whether	• Explore and use sliders and levers. • Understand that different mechanisms produce different types of movement. • Know and use technical vocabulary relevant to the project.

Enrichment

During this topic the children will experience a circus workshop this provides the children with an opportunity to learn the skills involved with activities such as scarf juggling, diabolo and plate spinning



Topic - Turrets and Tiaras
Year 1 - Spring
Subject - Design Technology



Prior Learning	In Reception, children will have had experience of using construction kits to build towers, experience of using basic tools e.g. scissors with construction card and experience of methods of joining using glue.
What Comes Next	In Year Two, the children will further explore producing freestanding structures when they design and make houses based on a Great Fire of London theme.
Key Vocabulary	Cut, fold, join, fix, structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved, metal, wood, plastic, circle, triangle, square, rectangle, cuboid, cube, cylinder, design, make, evaluate, user, purpose, ideas, design criteria, product, function

Notes and Guidance	Skills	Knowledge
POAP – Free standing Structures Outcome - Build turrets	Designing - Generate ideas based on simple design criteria and their own experiences, explaining what they could make. - Develop, model and communicate their ideas through talking, mock-ups and drawings. Making - Plan by suggesting what to do next. - Select and use tools, skills and techniques, explaining their choices. - Select new and reclaimed materials and construction kits to build their structures. - Use simple finishing techniques suitable for the structure they are creating. Evaluating - Explore a range of existing freestanding structures in the local environment (making reference to Warwick castle) - Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria.	- Know how to make freestanding structures stronger. - Know and use technical vocabulary relevant to the project

Enrichment

During this topic, the children spend a day at Warwick Castle.

	Topic – Yum Yum Year 1 – Summer Subject – Design Technology		
Prior Learning	In Reception, the children will have knowledge and experience of common fruit and vegetables, undertaking sensory activities i.e. appearance taste and smell. They have gained experience of cutting soft fruit and vegetables using appropriate utensils.		
What Comes Next	The children will return to looking at healthy and varied diets in Year 3 when the children will design a healthy pizza for Aunt Sponge as part of their 'James and the Giant Peach' topic.		
Key Vocabulary	Fruit and vegetable names, names of equipment and utensils, sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, investigating tasting, arranging, popular, design, evaluate, criteria		
Notes and Guidance		Skills	Knowledge
POAP – Healthy and Varied Diet Outcome – A fruit salad		Designing • Design appealing products for a particular user based on simple design criteria. • Generate initial ideas and design criteria through investigating a variety of fruit and vegetables. • Communicate these ideas through talk and drawings. Making • Use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely. • Select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product. Evaluating • Taste and evaluate a range of fruit and vegetables to determine the intended user's preferences. • Evaluate ideas and finished products against design criteria.	• 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 The Eatwell plate. • Know and use technical and sensory vocabulary relevant to the project (see skills grid)
Enrichment During this topic, the children go strawberry picking; this gives them a working insight into where some of the produce used in their fruit salads comes from.			



Topic – Fire and Ice
Year 2 - Autumn
Subject - Design Technology



Prior Learning	In Year One, the children will have experience of using construction kits to build walls and frameworks. They will have used basic tools e.g. scissors or hole punches with construction materials e.g. plastic, card and had experience of different methods of joining card and paper.	
What Comes Next	In Year Three, the children move on to looking at shell structures when they make treasure boxes.	
Key Vocabulary	Cut, fold, join, fix, structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved metal, wood, plastic, circle, triangle, square, rectangle, cuboid, cube, cylinder, design, make, evaluate, user, purpose, ideas, design criteria, product, function	
Notes and Guidance		Skills
POAP – Free standing structures Outcome- Great Fire of London model house		Designing • Generate ideas based on growing design criteria and their own experiences, explaining what they could make. • Develop, model and communicate their ideas through talking, mock-ups and drawings. Making • Plan by explaining what to do next. • Select and use tools, skills and techniques, explaining their choices. • Select new and reclaimed materials and construction kits to build their structures. • Use finishing techniques suitable for the structure they are creating. Evaluating • Explore a range of existing freestanding structures in the school and local environment e.g. buildings. • Evaluate their product by discussing effectiveness of it in relation to the purpose, the user and whether it meets the original design criteria.
Enrichment		
During this topic, children go on a visit to Aston Hall where they tour the hall; handle historical artefacts and complete drama and art activities based on the Great Fire of London. The fire brigade visits the children to discuss fire safety and how fire safety equipment has changed since the Great Fire of London.		



Topic – Into the Wild
Year 2 – Spring
Subject – Design Technology



Prior Learning	In Year One, children have learnt to assemble vehicles with moving wheels using construction kits, explored moving vehicles through play, gained some experience of designing, making and evaluating products for a specified user and purpose and developed some cutting, joining and finishing skills with card.
What Comes Next	In Year Three, children will return to mechanical systems, pulleys and gears when they design and produce a pulley driven vehicle (space rover).
Key Vocabulary	vehicle, wheel, axle, axle holder, chassis, body, cab, assembling, cutting, joining, shaping, finishing, fixed, free, moving, mechanism, names of tools, equipment and materials used, design, make, evaluate, purpose, user, criteria, functional

Notes and Guidance	Skills	Knowledge
POAP – Mechanisms, wheels and axles Outcome – A safari vehicle	Designing • Generate initial ideas and design criteria through talking and using own experiences. • Develop and communicate ideas through drawings and mock-ups. Making • Select from and use a range of tools and equipment to perform practical tasks such as cutting and joining to allow movement and finishing. • Select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics. Evaluating • Explore and evaluate a range of products with wheels and axles. • Evaluate their ideas throughout and their products against original criteria.	• Explore and use wheels, axles and axle holders. • Distinguish between fixed and freely moving axles. • Know and use technical vocabulary relevant to the project.

Enrichment

During this topic, the children will visit the safari park to see the animals learnt about in class in a real-life setting.



Topic – Buckets and Spades
Year 2 – Summer
Subject – Design Technology



Prior Learning	In Year One, the children have explored and used different fabrics, cut and joined fabrics with simple techniques and thought about the user and purpose of products.		
What Comes Next	In Year Four, the children will return to textiles where they will take a 2D shape into a 3D final product when making a Roman shield.		
Key Vocabulary	Names of existing products, joining and finishing techniques, tools, fabrics and components, template, pattern pieces, mark out, join, decorate, finish, features, suitable, quality mock-up, design brief, design criteria, make, evaluate, user, purpose, function		
Notes and Guidance		Skills	Knowledge
POAP – Templates and joining Outcome- A seaside puppet		Designing - Design a functional and appealing product for a chosen user and purpose based on design criteria. - Generate, develop, model and communicate their ideas as appropriate through talking, drawing, templates, mock-ups and information and communication technology. Making - Select from and use a range of tools and equipment to perform practical tasks such as marking out, cutting, joining and finishing. - Select from and use textiles according to their characteristics. Evaluating - Evaluate their ideas throughout and their final products against original design criteria, including intended user and purpose. - Explore and evaluate a range of existing textile products relevant to the project being undertaken.	- Know how simple 3-D textile products are made, using a template to create two identical shapes. - Know how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling. - Explore different finishing techniques e.g. using painting, fabric crayons, stitching, sequins, buttons and ribbons. - Know and use technical vocabulary relevant to the project.
Enrichment During this topic, the children will visit a beach location to have first-hand experiences of some of the geographical and scientific features they have learnt about. They also spend time creating their own sand sculptures.			



Topic - Prehistoric Britain
Year 3 – Autumn Term
Subject - Design Technology



Prior Learning	In Year Two, the children have had experience of using different joining, cutting and finishing techniques with paper and card and have a basic understanding of 2D and 3D shapes in mathematics, the physical properties and everyday uses of materials in science.
What Comes Next	In Year 4, the children will design shell structures using CAD when they make a survival box.
Key Vocabulary	Shell structure, three-dimensional (3-D) shape, net, cube, cuboid, prism, vertex, edge, face, length, width, marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, font, lettering, text, graphics, decision, evaluating, design brief design criteria, prototype

Notes and Guidance	Skills	Knowledge
POAP – Shell structures Outcome - A treasure box	Designing • Generate realistic ideas and design criteria collaboratively through discussion, focusing on the needs of the user and purpose of the product. • Develop ideas through the analysis of existing products and use annotated sketches and prototypes to model and communicate ideas. Making • Order the main stages of making. • Select and use appropriate tools to measure, mark out, cut, score, shape and assemble with some accuracy. • Explain their choice of materials according to functional properties and aesthetic qualities. • Use finishing techniques suitable for the product they are creating and ensure it fits the theme of the outcome. Evaluating • Investigate and evaluate a range of existing shell structures. • Test their own products against design criteria and the intended user and purpose.	• Develop and use knowledge of how to construct strong shell structures. • Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes. • Know and use technical vocabulary relevant to the project.

Enrichment

During this topic, the children will take part in an interactive theatre in education piece that will enhance and further the children's understanding and enjoyment of their Stone Age study.



Topic – James & The Giant Peach
Year 3 – Spring Term
Subject – Design Technology



Prior Learning	In Year Two, the children have had experience of preparing ingredients safely and hygienically. They will have some basic knowledge and understanding about healthy eating and The Eat Well Plate. They will have used some equipment and utensils and prepared and combined ingredients to make a product.
What Comes Next	In Year Six, the children will continue to develop their knowledge of healthy and varied diets when they plan and prepare a Chinese banquet.
Key Vocabulary	Utensils, techniques and ingredients, texture, taste, sweet, hot, appearance, smell, greasy, moist, cook, fresh, savoury, hygienic, edible, grown, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet, purpose, user, annotated sketch, sensory evaluation.

Notes and Guidance	Skills	Knowledge
POAP – A healthy and varied diet Outcome – A healthy pizza Reminding children – Why is healthy eating important? Why our bodies need nutrients? How food helps our bodies – energy, growth etc.	Designing • 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. • Use annotated sketches, appropriate information, and communication technology, such as web-based recipes, to develop and communicate ideas. Making • Plan the main stages of a recipe, listing ingredients, utensils and equipment. • 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. Evaluating • Carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs. • Evaluate the ongoing work and the final product with reference to the design criteria and the views of others.	• Know how to use appropriate equipment and utensils to prepare and combine food. • 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 and sensory vocabulary appropriately.

Enrichment

During this topic, the children will go on a trip to Sheepwash Farm where they learn more about the animals live there and how crops are grown and harvested on the farm.



Topic – Ancient Greece
Year 3 – Summer Term
Subject – Design Technology



Prior Learning	In Year Two, the children will have constructed a simple series electrical circuit in science, using bulbs, switches and buzzers. They will have had experience of cutting and joining a variety of construction materials, such as wood, card, plastic, reclaimed materials and glue.
What Comes Next	In Year Five, the children will return to electrical Systems- monitoring and control –when they design and make a night light.
Key Vocabulary	Series circuit, fault, connection, toggle switch, push-to-make switch, push-to-break switch, battery, battery holder, bulb, bulb holder, wire, insulator, conductor, crocodile clip control, program, system, input device, output device, user, purpose, function, prototype, design criteria, innovative, appealing, design brief

Notes and Guidance	Skills	Knowledge
POAP – Electrical systems; simple circuits and switches Outcome – A torch for Perseus and Theseus	Designing - 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. - Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross-sectional and exploded diagrams. Making - Order the main stages of making. - Select from and use tools and equipment to cut, shape, join and finish with some accuracy. - Select from and use materials and components, including construction materials and electrical components according to their functional properties and aesthetic qualities. Evaluating - Investigate and analyse a range of existing battery-powered products. - Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work.	- Know and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers. - Apply their understanding of computing to program and control their products. - Know and use technical vocabulary relevant to the project. (see skills grid)

Enrichment

During this topic, the children will plan and participate in a 'Living Museum' event which parents will be invited to at the end of the topic where they will show case aspects of life during Ancient Greek times.



Topic – Roman Empire
Year 4 – Autumn Term
Subject – Design Technology



Prior Learning	In Year 2, the children joined fabric in simple ways by gluing and stitching; used simple patterns and templates for marking out and evaluated a range of textile products when creating a seaside puppet.
What Comes Next	In Year 6, the children will return to textiles where they will combine different fabric shapes and using CAD create a pencil case or stationary organiser.
Key Vocabulary	Fabric, fastening, zip, button, finishing technique, templates, stitch, seam, seam allowance, user, purpose, design, model, evaluate, prototype, annotated sketch, innovative, investigate, label, drawing, aesthetics, function, pattern pieces

Notes and Guidance	Skills	Knowledge
POAP – Textiles- 2d shape to 3d product Outcome – A roman tunic	Designing • Generate realistic ideas through discussion for an appealing, functional product fit for purpose and specific user/s working more independently where possible. • Produce annotated sketches, prototypes, final product sketches and pattern pieces. Making • Plan the main stages of making. • Select and use a range of appropriate tools with some accuracy e.g. cutting, joining and finishing. • Select fabrics and fastenings according to their functional characteristics e.g. strength, and aesthetic qualities e.g. pattern. Evaluating • Investigate a range of 3-D textile products relevant to the project. • Test and evaluate their product against the original design criteria and with the intended user. • Take into account others' views. • Understand how a key event/individual has influenced the development of the chosen product and/or fabric.	• Know how to securely join two pieces of fabric together. • Know the need for patterns and seam allowances. • Know and use technical vocabulary relevant to the project.

Enrichment

During this topic, the children will go on a visit to Lunt Roman Fort to see primary sources and learn more about the Roman Empire.



Topic – Water
Year 4 – Spring Term
Subject – Design Technology



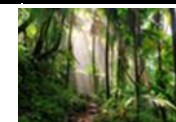
Prior Learning	In Year 2, the children joined fabric in simple ways by gluing and stitching; used simple patterns and templates for marking out and evaluated a range of textile products when creating a seaside puppet.
What Comes Next	In Year 6, the children will return to textiles where they will combine different fabric shapes and using CAD create a pencil case or stationary organiser.
Key Vocabulary	Fabric, names of fabrics, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance, user, purpose, design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, aesthetics, function, pattern pieces

Notes and Guidance	Skills	Knowledge
POAP – Mechanisms, lever and linkages Outcome – A moving sea monster	Designing: • Generate realistic ideas and their own design criteria through discussion, focusing on the needs of the user. • Use annotated sketches and prototypes to develop, model and communicate ideas. Making • Plan the main stages of making. • 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. Evaluating • Investigate and analyse books and, where available, other products with lever and linkage mechanisms. • Evaluate their own products and ideas against criteria and user needs, as they design and make. • Explore a range of existing books and everyday products that use simple sliders and levers.	• Know how to use lever and linkage mechanisms. • Distinguish between fixed and loose pivots. • Know and use technical vocabulary relevant to the project. • Know about sliders and the roles they play • Understand that different mechanisms produce different types of movement.

Enrichment During this topic, the children will learn more about Bewdley, a local area that is prone to flooding. They will visit Bewdley Museum, located in the heart of the town it provides a fascinating insight into the history and development of the town and the lives of the people who live there.



Topic – Rainforests
Year 4 – Summer Term
Subject – Design Technology



Prior Learning	In Year 3, the children will have had experiences of working with paper and card to make simple flaps and hinges. They will have also had experience of simple cutting, shaping and joining skills using scissors, glue, paper fasteners and masking tape.
What Comes Next	In Year 6, the children will return to structures when they design and make frame structures to produce a scale model of a shelter to survive in the woodland.
Key Vocabulary	Slider, lever, pivot, slot bridge/guide, card, masking tape paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards, design, make, evaluate, user, purpose, ideas, design criteria, product, function

Notes and Guidance	Skills	Knowledge
POAP – Shell structures using CAD Outcome – A survival box	Designing: • Generate ideas based on simple design criteria and their own experiences, explaining what they could make. • Develop, model and communicate their ideas through drawings and mock-ups with card and paper. Making • Plan by suggesting what to do next. • 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. Evaluating • Evaluate their product by discussing how well it works in relation to the purpose and the user and whether	• Know and use technical vocabulary relevant to the project.

Enrichment

During this topic, the children will learn more about the animals that live in the rainforest through either a trip to a wildlife park or through a workshop in school (SchoolLab). The children will also have the opportunity to go on a residential trip to Bell Heath where they will take part in a range of outdoor activities including orienteering and high ropes developing skills such as independence and resilience



Topic – Blackheath and the Blitz



Year 5 - Autumn Term
Subject - Design Technology

Prior Learning	The children will have initial experience of using computer control software and an interface box, a standalone box or microcontroller. They also have some experience of writing and modifying a program to make a light turn on or flash on and off. From Year 4 science, they have an understanding of the essential characteristics of a series circuit and experience of creating a battery-powered, functional, electrical product.
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What Comes Next	The children will transition to high school and the KS3 curriculum.
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Key Vocabulary	Reed switch, toggle switch, push-to-make switch, push-to-break switch, light dependent resistor (LDR), tilt switch, light emitting diode (LED), bulb, bulb holder, battery, battery holder, USB cable, wire, insulator, conductor, crocodile clip, control, program, system, input device, output device, series circuit, parallel circuit, function, innovative, design specification, design brief, user, purpose. Crumble software, sparkles
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Notes and Guidance	Skills	Knowledge
POAP – Electrical Systems- monitoring and control Outcome - A night light	Designing - Develop a simple design specification for a functional product that responds automatically to changes in the environment. - Generate, develop and communicate ideas through discussion, annotated sketches and pictorial representations of electrical circuits or circuit diagrams. Making - Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components. - Competently select and accurately assemble materials, and securely connect electrical components to produce a reliable, functional product. - Create and modify a computer control program (Crumble) to enable their electrical product to respond to changes in the environment. Evaluating - Continually evaluate and modify the working features of the product to match the initial design specification. - Test the system to demonstrate its effectiveness for the intended user and purpose.	- Know and use electrical systems in their products. - Know the use of computer control systems in products. - Apply their knowledge of computing to program, monitor and control their products. - Know and use technical vocabulary relevant to the project.

Enrichment During this topic, the children will go on a trip to RAF Cosford Museum to learn more about WW2 and the experience of being an evacuee.

Year 5 – Spring Term
Subject – Design Technology

Prior Learning	The children have experience from their work in Year 4 of axels, axel holders and wheels that are fixed or moving. In Autumn term, they gained a basic understanding of electrical circuits, simple switches and components. Earlier construction projects have given them experience of cutting and joining techniques with a range of materials including card, plastic and wood, as well as an understanding of how to strengthen and stiffen structures.
What Comes Next	The children will look again at mechanical systems during summer term- this time with a focus on cams.
Key Vocabulary	Pulley, drive belt, gear, rotation, spindle, driver, follower, ratio, transmit, axel, motor circuit, switch, circuit diagram, annotated drawings, exploded diagrams, mechanical system, electrical system, input, process, output, design decisions, functionality, innovation, authentic, user, purpose, design specification, design brief

Notes and Guidance	Skills	Knowledge
POAP – Mechanical system, pulleys and gears Outcome – A pulley driven vehicle (space rover)	Designing • Generate innovative ideas by carrying out research using surveys, interviews, questionnaires and web-based resources. • 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 • Produce detailed lists of tools, equipment and materials. Formulate step-by-step plans and, if appropriate, allocate tasks within a team. • 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 • 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. • Consider the views of others to improve their work. • Investigate famous manufacturing and engineering companies relevant to the project.	• Know that mechanical and electrical systems have an input, process and an output. • Know 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. (see skills grid)

Enrichment

During this topic, the children will go on a trip to the Space Centre in Leicester. As the UK's largest planetarium, it offers the children a first-hand experience of life under the stars



Topic – Shields, Swords and Settlers
Year 5 – Summer Term
Subject – Design Technology



Prior Learning	The children will have had experience of axles, axle holders and wheels that are fixed or free moving. They will have a basic understanding of different types of movement; an experience of cutting and joining techniques with a range of materials including card, plastic and wood; and a basic understanding of how to strengthen and stiffen structures
What Comes Next	In Year Six, the children will design and construct a scale model of a shelter to survive in the woodland.
Key Vocabulary	Cam, snail cam, off-centre cam, peg cam, pear shaped cam, follower, axle, shaft, crank, handle, housing, framework, rotation, rotary motion, oscillating motion, reciprocating motion annotated sketches, exploded diagrams, mechanical system, input movement, process, output movement, design decisions, functionality, innovation, authentic, user, purpose, design, specification, design brief

Notes and Guidance	Skills	Knowledge
POAP – Mechanical systems- cams Outcome – A moving model on a Saxon theme	Designing • Begin to generate innovative ideas by carrying out research using surveys, interviews, questionnaires and web-based resources. • 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 • Produce detailed lists of tools, equipment and materials. Formulate step-by-step plans. • Select from and use a range of tools and equipment to make products that that are assembled and well finished. Work within the constraints of time, resources and cost. Evaluating • Compare the final product to the original design specification. • Test products with the intended user, where safe and practical, and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. • Consider the views of others to improve their work. • Investigate famous manufacturing and engineering companies relevant to the project.	• Know that mechanical systems have an input, process and an output. • Know how cams can be used to produce different types of movement and change the direction of movement. • Know and use technical vocabulary relevant to the project.

Enrichment

During this topic, the children will take part in a themed day at school, where a Saxon will visit. Through character acting, questioning and role-play, the workshop immerses children in Saxon life and enhances their understanding of the time period.



Topic - Survival of the Fittest
Year 6 - Autumn
Subject - Design Technology



Prior Learning	The children have experience of using measuring, marking out, cutting, joining, shaping and finishing techniques with construction materials and an understanding of what structures are and how they can be made stronger, stiffer and more stable.
What Comes Next	The children will transition to high school and the KS3 curriculum.
Key Vocabulary	Frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent, design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional

Notes and Guidance	Skills	Knowledge
POAP – Frame structures Outcome – A scale model of a shelter to survive in the woodland	Designing • Carry out research into user needs and existing products, using surveys, interviews, questionnaires and web-based resources. • Develop a 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 • Formulate a clear plan, including a step-by-step list of what needs to be done and lists of resources to be used. • Competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks. • Use finishing and decorative techniques suitable for the product they are designing and making. Evaluating • Investigate and evaluate a range of existing frame structures. • 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	• Know how to strengthen, stiffen and reinforce 3-D frameworks. • Know and use technical vocabulary relevant to the project.

Enrichment

During this topic, the children will take part in an outwards bounds activity day where problem solving in a variety of contexts is explored.



Beyond the Great Wall
Year 6 - Spring Term
Subject - Design Technology



Prior Learning	The children have knowledge and understanding about food hygiene, nutrition, healthy eating and a varied diet. They are able to use appropriate equipment and utensils, and apply a range of techniques for measuring out, preparing and combining ingredients
What Comes Next	The children will transition to high school and the KS3 curriculum.
Key Vocabulary	Ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs, fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality, utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble, design specification, innovative, research, evaluate, design brief

Notes and Guidance	Skills	Knowledge
POAP – Healthy and varied diet Outcome- A Chinese banquet CAD – Chinese Takeaway Box	Designing • Generate innovative ideas through research and discussion with peers and adults to develop a design brief and criteria for a design specification. • 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 • Use CAD to develop a takeaway box Making • Write a step-by-step recipe, including a list of ingredients, equipment and utensils independently. • 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 • 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. • 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.	• Know how to use utensils and equipment including heat sources to prepare and cook food. • Know about seasonality in relation to food products and the source of different food products. • Know and use relevant technical and sensory vocabulary.

Enrichment

During this topic, the children will experience Chinese food and will make and eat their own Chinese banquet.



Topic – The American Dream
Year 6 – Summer Term
Subject – Design Technology



Prior Learning	In Year 4, the children gained experience of stitching, joining textiles and finishing techniques when completing their textiles project. They also gained experience of making and using simple pattern pieces.
What Comes Next	The children will transition to high school and the KS3 curriculum.
Key Vocabulary	Seam, seam allowance, wadding, reinforce, right side, wrong side, hem, template, pattern pieces, name of textiles and fastenings used, pins, needles, thread, pinking shears, fastenings, iron transfer paper, design criteria, annotate, design decisions, functionality, innovation, authentic, user, purpose, evaluate, mock-up, prototype

Notes and Guidance	Skills	Knowledge
POAP – Textiles- combining different fabric shapes. Outcome – A pencil case or stationary organiser	Designing • Generate innovative ideas by carrying out research including surveys, interviews and questionnaires. • Develop, model and communicate ideas through talking, drawing, templates, mock-ups and prototypes. • Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification. Making • Produce detailed lists of equipment and fabrics relevant to their tasks. • Formulate clear step-by-step plans and, if appropriate, allocate tasks within a team. • Select from and use a range of tools and equipment (including computing skills) to make products that are accurately assembled and well finished. Work within the constraints of time, resources and cost. Evaluating • Investigate and analyse textile products linked to their final product. • Compare the final product to the original design specification (consider the computing skills used). • Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.	• A 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics. • Fabrics can be strengthened, stiffened and reinforced where appropriate.

Enrichment

During this topic, Year 6's residential trip to Plas Gwynant takes place. This provides our children with the opportunity to develop their resilience, confidence & independence, to raise aspirations and become more environmentally aware whilst taking part in a number of specially designed outward-bound activities such as canoeing, rock climbing and gorge walking.

