



Design Technology Overview

	Autumn 1		Autumn 2		Spring 1		Spring 2		Summer 1		Summer 2	
Pre-3					Observational Skills KLP <ul style="list-style-type: none"> Notice detailed features of objects in their environment. Sound and Colour KLP <ul style="list-style-type: none"> Create sounds by rubbing, shaking, tapping, striking or blowing. Enjoy and respond to play with colour in a variety of ways, for example combining colour. 				Express Ideas/ Intent KLP <ul style="list-style-type: none"> Experiment with ways to enclose a space, create shapes and represent actions, sounds and objects. Uses 3D and 2D structures to explore materials and/or to express ideas. 			
Nursery	Exploration of Colour, Material, Texture and Movement KLP <ul style="list-style-type: none"> Explore colour and materials freely on workbench and when using malleable items - roll, squash, pinch, cut. Start to describe textures e.g. rough, smooth, hard, soft. Feel and use how things work and explore forces outdoors. 				Joining and Enclosing KLP <ul style="list-style-type: none"> Choose workbench materials, tools and joining technique to develop own ideas. In pretend play, build stories around resources, including small world and enclosing spaces. Start to notice detail, colour, line and movement in constructing. 				Detail of Line, Texture and Movement KLP <ul style="list-style-type: none"> Notice detail, colour, line and movement in constructing animal dens. Choose workbench materials, tools and joining technique to add texture. Pretend play cont. building stories around resources available including small world and enclosing spaces. Explore 2D closed space and continual lines. 			
Reception	Shape in Buildings KLP <ul style="list-style-type: none"> See and use mathematical language for 2D and 3D shapes in buildings. Use a range of construction kits to make a building with key features. Explore basic textures, collages, experiment with materials e.g. masking tape, play dough. 		Links Between 2D and 3D KLP <ul style="list-style-type: none"> Observe 3D line and make spiders and web patterns using string, pipe cleaners. Explore and talk about the techniques of straight folds, cuts and halving. Patterns in sand: pouring through holes and explain their techniques (mould, pinch, dig and pile-up). Further sensory modelling using natural materials to make pattern and pictures. 		Bridges KLP <ul style="list-style-type: none"> Fold, bend and curve paper to explore shape of bridges. Build walls in different patterns using construction kits. Observe similarities and differences of local and famous bridges. Talk about strength of materials metal, wood, stone. 		3D Shape and State in Nature KLP <ul style="list-style-type: none"> Making 3D flowers. Observe process of growth of foods. Change and talk about state of matter through cooking processes. (hard/soft/ solid/ liquid). Movement On and In Water KLP <ul style="list-style-type: none"> Make boats using containers and solid objects. Move objects on water by blowing, or using flow/gradient. Explore the story of Archimedes and his Bath. 		Layering Materials KLP <ul style="list-style-type: none"> Controlled tearing and layering paper and materials: textures and collage. Building wormeries: change in matter of earth materials -soil gravel and sand. Explain the process of layering. 		Large and Small Design KLP Large Scale Props <ul style="list-style-type: none"> Group builds of castle structures (to role play narratives). Explain their plan and process and adapt. Delicate Materials KLP <ul style="list-style-type: none"> Daisy chains and leaf chains. Making paper dolls/ characters, cutting in detail. 	
Year 1	Puppets KLP <ul style="list-style-type: none"> Explore different types of puppets and their parts. Make simple drawings and label parts. Identify simple design criteria. Measure, mark out, cut, shape and join fabric pieces to make the main part of a puppet. Use appropriate finishing techniques. Evaluate work against design criteria. 				Shelters KLP <ul style="list-style-type: none"> Design purposeful, functional, appealing products for themselves and other users based on design criteria. Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. Select from and use a wide range of materials and components, including construction materials, according to their characteristics. 				Super Crunch Snack Pot KLP <ul style="list-style-type: none"> Develop knowledge of basic healthy eating messages. Carry out research to help them design a fruit based Supercrunch snack pot. Develop skills to safely use a range of basic food preparation skills. Design, make and share their snack pot with a partner and evaluate the products. Design purposeful, functional, appealing products for themselves and other users based on design criteria. Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. 			

		<ul style="list-style-type: none"> • Build structures, exploring how they can be made stronger, stiffer and more stable. • Explore and evaluate a range of existing products. • Evaluate their ideas and products against design criteria. 	<ul style="list-style-type: none"> • Select from and use a range of tools and equipment to perform practical tasks with food. • Select from and use a wide range of ingredients. • Explore and evaluate a range of existing products. • Evaluate their ideas and products against design criteria.
Year 2	<p>Bag a Breakfast KLP</p> <ul style="list-style-type: none"> • Develop knowledge about healthy eating and the origins of foods. • Prepare ingredients and practice food preparation and cooking skills. • Be aware that others may have different dietary preferences/needs so dishes may need to be modified. • Design, make and evaluate their dish. • Design purposeful, functional, appealing products for themselves and other users based on design criteria. • Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. • Select from and use a range of tools and equipment to perform practical tasks (for example cutting, shaping, joining and finishing). • Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. • Explore and evaluate a range of existing products. • Evaluate their ideas and products against design criteria. 	<p>Queen's Carriage KLP</p> <ul style="list-style-type: none"> • Explore what makes a wheel move. • Design a moving carriage. • Evaluate their design to make improvements. • Make a moving carriage. • Generate initial ideas and simple design criteria through talking and using own experiences. • Develop and communicate ideas through drawings and mock-ups • 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. • Explore and evaluate a range of products with wheels and axles. • Evaluate their ideas throughout and their products against original criteria. 	<p>Make a Badge KLP</p> <ul style="list-style-type: none"> • Sew a running stitch with regular-sized stitches and understand that both ends must be knotted. • Prepare and cut fabric to make a badge from a template. • Use a running stitch to join the two pieces of fabric together. • Decorate their badge using the materials provided. • Design purposeful, functional, appealing products for themselves and other users based on design criteria. • Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. • Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. • Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. • Explore and evaluate a range of existing products. • Evaluate their ideas and products against design criteria.
Year 3	<p>A Healthy Lunch KLP</p> <ul style="list-style-type: none"> • Develop and apply their knowledge and understanding of food groups and healthy eating • Learn and practice food preparation and cooking skills. • Understand what is meant by seasonality and where some food comes from. • Design, make and evaluate their dish against their own design criteria and consider the views of others to improve their work. • Understand and apply the principles of a healthy and varied diet. • Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. • Understand seasonality, and know where and how a variety of ingredients are grown, reared and caught and processed. • Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups. • Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. • Select from and use a wider range of tools and equipment to perform practical tasks (for example cutting, shaping, joining and finishing) accurately. • Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic quality. • Investigate and analyse a range of existing products. 	<p>Volcano Applique KLP</p> <ul style="list-style-type: none"> • Know that Sandra Goldsbrough is a contemporary quilt artist who uses takes inspiration from the landscapes she sees- evaluate existing work. • Consider the order in which things need to be done. • Know that quilting is the process of sewing two or more layers of fabric together to make a thicker padded material. • Know how to thread a needle. • Know to stitch through the fabric to the backside, skip a small distance, and stitch back up to the right side. • Know that gathering fabric will add texture. • Join materials in permanent and semi-permanent ways suitable for the material type and the criteria set: In textiles develop additional stitching techniques e.g. blanket stitch and cross stitch. • Know how to combine or modify materials to strengthen, stiffen and reinforce more complex structures. • Evaluate their own work honestly and reflect on what they could do to make it better. • Evaluate each other's work make suggestions about what could be done to make it better. • Attempt to improve their product. 	<p>Shadow Puppets KLP</p> <ul style="list-style-type: none"> • Investigate how objects made from different materials cast shadows. • Understand how a shadow changes depending on the object's orientation. • Understand opaque, transparent and translucent and the shadows these objects cast. • Investigate how the orientation of an object affects the shadow. • Create jointed shadow puppets controlled with a flexible stick • 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. • Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users • 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. • Distinguish between fixed and loose pivots. • Design, make and evaluate their puppets against their own design criteria and consider the views of others to improve their work.

	<ul style="list-style-type: none"> Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. 		
Year 4	<p>Drain Your Drinks KLP</p> <ul style="list-style-type: none"> Understand and apply the principles of a healthy and varied diet. Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. Understand seasonality, and know where and how a variety of ingredients are grown, reared and caught and processed. Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups. Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. Select from and use a wider range of tools and equipment to perform practical tasks (for example cutting, shaping, joining and finishing) accurately. Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. Investigate and analyse a range of existing products. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Investigate how existing products look and function as a source of ideas for their own products, e.g. healthy eating. Develop a simple specification/ recipe for their products indicating their intentions and approach. Evaluate their design ideas as they develop, considering the needs of the user. Work to their specification/ recipe to make their products. Choose appropriate materials, ingredients, equipment, tools/ utensils and techniques, from a range made available to them. Measure, mark out, cut, shape, join, weigh and mix a range of materials and ingredients, using appropriate tools/ utensils, equipment and techniques. Discuss their products, and evaluate their work, e.g. explain why and how they made their product and what they think about its function, features, performance, taste. Plan and carry out a broad range of practical food preparation tasks safely and hygienically. Apply current healthy eating messages and consider nutritional needs when undertaking food preparation tasks. Classify food by commodity/group and understand the characteristics of a broad range of ingredients, including their nutritional, functional and sensory properties, e.g. meat, fish, fruit, vegetables. 	<p>Lighthouses KLP</p> <ul style="list-style-type: none"> Look at lighthouses through history from the Greek lighthouse at Alexandria to modern day examples. Use existing products to inform choices about materials and designs and develop own design criteria. Use annotated sketches and begin to use other styles of drawing- cross-sections/ exploded diagrams/ plan views as well as discussion to communicate ideas. Use CAD where applicable. Make models of sections/ pattern pieces or any moving pieces as a trial. Know a circuit needs a battery, switch, wires and a bulb in a continuous circuit to function and this is a series circuit Understand how reflective materials help magnify and project the light source. Make or modify structures to hold the light source at the top and hide the other components inside. Use knives, saws, screwdrivers and wire strippers carefully and accurately. Make models of sections/ pattern pieces or any moving pieces as a trial. Finish the products in ways relevant to the intended use and user. Evaluate their own work honestly and reflect on what they could do to make it better. Evaluate each other's work in the same way. Attempt to improve their product. 	<p>Norman Purses KLP</p> <ul style="list-style-type: none"> Use running, back and blanket stitches to join fabric together. Use cross stitch, chain stitch and French knots to add detail and interest. Securely join different pieces of fabric together to make pockets. Use applique techniques by gluing on other fabric sections to add detail. Create and use paper patterns to cut fabric to the correct size and shape. Experiment with fasteners: such as buttons and drawstrings to close pockets and sections for security. Use scissors accurately. Consider thread colour choice so it either blends with the fabric or becomes an additional, aesthetic feature. Understand how to strengthen fabric by hemming/ folding or adding another material e.g. card to support. Evaluate each other's work make suggestions about what could be done to make it better. Attempt to improve their product.
Year 5	<p>Bridges KLP</p> <ul style="list-style-type: none"> Develop their understanding of structures by investigating how different shapes affect their strength. 	<p>Creating a Moving Vehicle- Moon Buggy KLP</p> <ul style="list-style-type: none"> Evaluate existing products: what is good about them and what could be better. Draw series of ideas on paper and label. 	<p>Snack Attack KLP</p> <ul style="list-style-type: none"> Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.

	<ul style="list-style-type: none"> • Explore how to reinforce a beam (structure) to improve its strength. • Create dried spaghetti truss bridges, learning how different shapes can improve the strength of a structure. • Build a wooden truss bridge. • Measure and mark out accurately on wood. • Select appropriate tools and equipment for particular tasks. • Follow health and safety rules. • Explain why selecting appropriating materials is an important part of the design process. • Reinforce and evaluate truss bridges. 	<ul style="list-style-type: none"> • Explain designs and begin to experiment making models and mock-ups of parts of the design. • Use scissors accurately to cut along lines and round shapes and templates provided or made themselves- working with paper, card. • Use rulers to draw straight lines of an accurate length. • Measure accurately with a ruler. • Become more competent when cutting using craft knives and with support begin to cut using junior hacksaws. • Make a basic wooden frame to support axles. • Build things and begin to understand that thicker materials or the addition of another material can make things stronger. • Use folding, glue, tape, staples to join materials in permanent or semi-permanent ways. • Add finishing features to enhance the final product. • Evaluate their product, orally or in writing saying what went well and what could be better if they did it again, including comments on particular stages of the make, not just the final piece. 	<ul style="list-style-type: none"> • Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided. • Select from and use a wider range of tools and equipment to perform practical tasks (for example cutting, shaping, joining and finishing) accurately. • Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. • Investigate and analyse a range of existing products. • Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. • Investigate how existing products look and function as a source of ideas for their own products, e.g. healthy eating. • Develop a simple specification/ recipe for their products indicating their intentions and approach. • Evaluate their design ideas as they develop, considering the needs of the user. • Work to their specification/ recipe to make their products. • Choose appropriate materials, ingredients, equipment, tools/ utensils and techniques, from a range made available to them. • Measure, mark out, cut, shape, join, weigh and mix a range of materials and ingredients, using appropriate tools/ utensils, equipment and techniques. • Discuss their products, and evaluate their work, e.g. explain why and how they made their product and what they think about its function, features, performance, taste. • Plan and carry out a broad range of practical food preparation tasks safely and hygienically. • Apply current healthy eating messages and consider nutritional needs when undertaking food preparation tasks. • Classify food by commodity/group and understand the characteristics of a broad range of ingredients, including their nutritional, functional and sensory properties, e.g. meat, fish, fruit, vegetables.
Year 6	<p>Eat Well (Healthy Pizza and Side Dish) KLP</p> <ul style="list-style-type: none"> • Increase their knowledge of a healthy and varied diet through current healthy eating messages. • Use this knowledge to research and design a pizza with toppings. • Follow kitchen hygiene rules and practise food preparation skills when preparing the food. • Make and evaluate their finished pizza and side dish. • Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups. • Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. • Select from and use a wider range of tools and equipment to perform practical tasks (for example cutting, shaping, joining and finishing) accurately. • Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. 	<p>Viking Embroidery KLP</p> <ul style="list-style-type: none"> • Research typical Viking designs and patterns on jewellery, boats, shields, writing etc. • Create and use paper patterns using typical Viking design. • Transfer patterns onto fabric using chalk. • Use running, back, cross and chain stitch to create decorative effect. • Use cross stitch, chain stitch and French knots to add detail and interest. • Embellish work using beads, buttons and sequins where appropriate. • Create and use paper patterns using typical Viking design. • Experiment with wadding/quilting techniques. • Use scissors accurately. • Consider thread colour choice so it either blends with the fabric or becomes an additional, aesthetic feature. • Evaluate each other's work make suggestions about what could be done to make it better. • Attempt to improve their product 	<p>Electrical Systems- Steady Hand Game KLP</p> <ul style="list-style-type: none"> • Gather images and information about existing children's toys. • Analyse a selection of existing children's toys. • Apply knowledge of form and function. • Identify the components of a 'steady hand game', • Design their own game and create perspective drawings of their design. • Accurately cut and assemble a net. • Decorate the base and ensure a high-quality finish. • Ensure that the sides of the base are aligned when glued. • Use tabs to secure the pieces of the net in place. • Make and test a circuit. • Incorporate a circuit into a base. • Name electrical components. • Assemble electronics and complete an electronic game.

- Investigate and analyse a range of existing products.
- Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.
- Investigate how existing products look and function as a source of ideas for their own products, e.g. healthy eating.
- Develop a simple specification/ recipe for their products indicating their intentions and approach.
- Evaluate their design ideas as they develop, considering the needs of the user.
- Work to their specification/ recipe to make their products.
- Choose appropriate materials, ingredients, equipment, tools/ utensils and techniques, from a range made available to them.
- Measure, mark out, cut, shape, join, weigh and mix a range of materials and ingredients, using appropriate tools/ utensils, equipment and techniques.
- Discuss their products, and evaluate their work, e.g. explain why and how they made their product and what they think about its function, features, performance, taste.
- Plan and carry out a broad range of practical food preparation tasks safely and hygienically.
- Apply current healthy eating messages and consider nutritional needs when undertaking food preparation tasks.
- Classify food by commodity/group and understand the characteristics of a broad range of ingredients including their nutritional, functional and sensory properties, e.g. meat, fish, fruit, vegetables.

