

Theme	Skill	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Textiles 	Designing 	Children represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories.	Can design a functional and appealing product for a chosen user and purpose based on simple design criteria. Generate, develop, model and communicate their ideas as appropriate through talking, drawing, templates, mock ups and IT.	Can generate ideas by drawing on their own and other people's experiences. Develop their design ideas through discussion, observation, drawing and modelling. Identify a purpose for what they tend to design and make. Identify a simple design criteria. Make simple drawings and label parts.	Generate ideas for an item considering its purpose and user/s. Identify a purpose and establish criteria for a successful product. Can make labelled drawings to show design process.	Generate realistic ideas through discussion and design criteria for an appealing, functional product fit for purpose and specific users. Produce annotated sketches and pattern pieces. Develop a clear idea of what has to be done, planning how to use materials, equipment and processes and suggesting alternative methods of making, if the first attempt fails.	Communicate ideas through brainstorming and identify a purpose for their product. Draw a specification for their design. Develop a clear idea of what has to be done, planning how to use materials, equipment and processes and suggesting alternative methods of making if the first attempt fails.	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 and where appropriate CAD. Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification.
	Making 	Children safely use and explore a variety of tools and techniques, experimenting with colour, design, texture, form and function.	Children can begin to 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.	Use vocab to name and describe them. Choose the correct tools for the correct purpose e.g. cutting, joining and finishing. Select the correct material to use for their product.	Can begin to plan the main stages of making. Can select and use a range of appropriate tools provided 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.	Select appropriate tools and techniques for making their product. They can use the tools safely and accurately. Can plan their design step by step with some detail. Can select and use textiles to meet the brief and needs of the user.	Plan for and collect appropriate tools and techniques for making the product. Formulate step by step plans with increased detail including tools and materials needed. Children consider the finish and make a quality product.	Produce detailed lists of equipment and fabrics relevant to the task. 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 are accurately assembled and well finished. Work within the constraints of time, resources and cost.
	Evaluating 	Children use what they have learnt about media and materials in original ways, thinking about uses and purpose.	Explore and evaluate a range of existing textile products relevant to the project being undertaken. Evaluate their ideas throughout and their final products against original design criteria.	Evaluate against their design criteria. Evaluate their products as they are developed, identifying strengths and possible changes they may take. Talk about ideas, saying what they like and dislike about them.	Investigate a range of 3D textile products relevant to the project. Test 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. Evaluate existing methods against their own.	Evaluate products and identify criteria that can be used for their own designs. Evaluate their work both during and at the end of the assignment. Evaluate their products carrying out appropriate tests. Use simple scales to critique.	Evaluate their product identifying strengths and areas for development on a range of aspects e.g. technique, materials. Record their evaluations using drawings and labels. Evaluate against their original criteria and suggest ways that their product could be improved. Use recording scales to evaluate different aspects.	Investigate and analyse textile products linked to their final product. 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.
	Technical Knowledge and Understanding 	Children will experiment with different ways to join two materials together. They will use different materials to finish their product. They will begin to use some correct vocabulary.	Understand how simple 3D 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. Explore different finishing techniques e.g. using painting, fabric crayons, stitching, sequins, buttons and ribbons. Know and use technical vocabulary relevant to the project.	Measure, cut and score with some accuracy. Assemble, join and combine materials in order to make a product. Cut, shape and join fabric to make a simple garment. Use basic sewing techniques. Choose appropriate finishing techniques.	Know how to strengthen, stiffen and reinforce existing fabrics. Understand how to securely join two pieces of fabric together. Understand the need for patterns and seam allowances. Know and use technical vocabulary relevant to the project.	Measure, mark out, cut and shape a range of materials using appropriate tools, equipment and techniques. Join and combine materials and components accurately in temporary and permanent ways. Can use a range of stitches for different purposes. Measure, tape or pin, cut and join fabric with increased accuracy.	Measure and mark out accurately. Cut and join with accuracy to ensure a good-quality finish to the product. Sew using a range of different stitches, weave and knit. Measure, tape or pin, cut and join fabric accuracy.	A 3D 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. Pin, sew and stitch materials together to create a product. Achieve a quality product.

Structures 	Designing 	Children represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories. Explore materials freely to develop their ideas about how to use them and what to make. Develop their own ideas and then decide which materials to use to express them.	Can design a functional and appealing product for a chosen user and purpose based on simple design criteria. Generate, develop, model and communicate their ideas through talking, mock ups and drawings. Can draw basic sketches of their intended piece.	Generate ideas based on simple design criteria and their own experiences, explaining what they could make. Generate, develop, model and communicate their ideas as appropriate through talking, drawing, templates, mock ups and IT. Identify a purpose for what they intent to design and make. Identify simple design criteria. Use labelled diagrams and communicate their ideas.	Generate ideas for an item considering its purpose and user/s. Identify a purpose and establish critetia for a successful product. Develop their recording style to communicate their ideas. Use labelled drawings/sketchs and cross sections. Children are developing step by step plans to aid the creation of their textile piece.	Generate realistic ideas and design criteria collaboratively through discussion, focussing on the needs of the user and the functional and aesthetic purposes of the product. Develop ideas through the analysis of existing shell structures and use design or CAD to model and communicate ideas.	Communicate ideas through brainstorming and identify a purpose for their product. Draw a specification for their design. Develop a clear idea of what has to be done, planning how to use materials, equipment and processes and suggesting alternative methods of making if the first attempt fails.	Carry out research into uder needs and existing products, using surveys, interviews, questionnaires and web-based resources. Develop a simple design specification to guide the development of their ideas and products, taking account of constraints including time, resources and cost. Geberate, develop and model innovative ideas, through discussion, prototypes and annotated sketches.
	Making 	Join different materials in different ways and explore different textures. Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city or house. Explore collections of materials with similar and/or different properties.	Model their ideas in card and paper. Make their design using appropriate techniques. Use tools such as scissors and a hole punch safely.	Plan by suggesting what to do next. Begin to select and use tools, skills and techniques explaining their choices. Use hand tools safely and appropriately. Select new and reclaimed materials and construction kits to build their structures. Use simple finishing techniques suitable for the structure they are creating.	Can begin to plan the main stages of making. Select and use a range of appropriate tools with some accuracy e.g. cutting, joining and finishing. Select materials and fixings according to their functional characteristics e.g. strengt, flexibility and purpose.	Plan the order of the main stages of making. Select and use appropriate tools and software 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 CAD finishing techniques suitable for the product they are creating.	Select appropriate tools and techniques for making the product. Begin to formulate step by step plans with increased detail. Can select from a range of tools to measure, mark out, cut and join construction materials to make frameworks. Can choose some finishing details suitable for the intended finish.	Formulate a clear plan, including a step by step list of what needs to be done and lists of resources 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 decoration techniques suitable for the product they are designing and making.
	Evaluating 	Children talk about what they see and what they have made using simple vocabulary.	Evaluate against their design criteria. Evaluate their product as they are developed, identifying strengths and possible changes they might make. Evaluate their product by asking questions about what they have made and how they have gone about it.	Explore a range of existings freestanding structures in the school and local environment e.g. everyday products and buildings. Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria. Talk about their ideas, saying what they like and dislike about them.	Investigate a range of shell structures relevant to the project. Test their product against the original design critetia and with the intended user. Take into account others' views. Understand how a key event/individual has influenced the development of the chosen product /structure.	Investigate and evaluate a range of shell structures including the materials, components and techniques that have been used. Test and evaluate their own products against design criteria and the intended uder and purpose. Know how key people have influenced the development of the chosen product/structure.	Evaluate their product identifying strengths and areas for development. Record their evaluations using drawings and labels. Evaluate against their original criteria and suggest ways that their product could be improved.	Investigate and evaluate a range of existing frame structures. Critically evaluate their products against their design sepcification, intended user and purpose, identifying strengths and areas for development and carying out appropriate tests. Research key events and individuals related to frame structures.
	Technical Knowledge and Understanding 	Children will experiment with different ways to join two materials together. They will use different materials to finish their product. They will begin to use some correct vocabulary.	Assemble, join and combine components together using a variety of temporary methods e.g. glues or masking tape. Use simple finishing techniques to improve the appearance of their product.	Know how to make freestanding structures stronger, stiffer and more stable. Know and use technicaol vocabulary relevant to the project. Think about their ideas as they make progress and be willing to change things if this helps them improve their work. Use finishing techniques to improve their product using a range of equipment including ICT.	Measure, mark out, cut, score and assemble components with increasing accuracy. Use a range of simple tools accurately. Measure, tape, vut and join materials in different ways. Use some finishing techniques to strengthen and improve the appearance of their product.	Develop and use knowledge of nets of cubes and cuboids and where appropriate, more complex 3D shapes. Develop and use knowledge of how to construct strong, stiff shell structures. Use a range of finishing techniques including ICT to improve the appearance. Know and use some technical vocabulary relevant to the project.	Use and create nets of cubes and cuboids and some more complex shapes. Understand how to strengthen, stiffen and reinforce 3D frameworks. Finish their product to a high standard using a range of finishing technques. Know and use technical vocabulary relevant to the project.	Can use a range of techniques to strengthen, stiffen and reinforce 3D frameworks and chose the appropriate method for the job. Finish their product to a high standard using a range of finishing techniques. Know and use technical vocabulary and give explanations for materials and their uses.

Mechanisms 	Designing 	Children represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories. Explore materials freely to develop their ideas about how to use them and what to make. Develop their own ideas and then decide which materials to use to express them.	Can design a functional and appealing product for a chosen user and purpose based on simple design criteria. Generate, develop, model and communicate their ideas through talking, mock ups and drawings.	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. Generate ideas and simple design criteria through talking and using own experiences.	Generate ideas for an item considering its purpose and user/s. Identify a purpose and establish criteria for a successful product. Use labelled drawings to communicate ideas.	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.	Communicate ideas through brainstorming and identify a purpose for their product. Draw a specification for their design. Develop a clear idea of what has to be done, planning how to use materials, equipment and processes and suggesting alternative methods of making if the first attempt fails.	Generate innovative ideas by carrying out research using surveys, interviews, questionnaires and web-based resources. Develop a sample design specification to guide their thinking. Develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views.
	Making 	Join different materials in different ways and explore different textures. Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city or house. Use construction kits to explore moving parts including axels, levers and cams. Explore collections of materials with similar and/or different properties.	Model their ideas in card, paper and construction kits. Make their design using appropriate techniques, this could be using templates. Use tools such as scissors and a hole punch safely.	Plan by suggesting what to do next. Select and use tools, explaining their choices to cut, shape join and use moving parts. Also for joining to allow movement and finishing. Use simple finishing techniques suitable for the product they are creating. Select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics.	Can begin to plan the main stages of making. Select and use a range of appropriate tools with some accuracy e.g. cutting, joining and finishing. Select materials and fixings according to their functional characteristics e.g. strength, flexibility, moving parts and purpose.	Order 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.	Select appropriate tools and techniques for making the product. Begin to formulate step by step plans with increased detail. Can select from a range of tools to measure, mark out, cut and join construction materials to make moving parts. Can choose some finishing details suitable for the intended finish.	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 are accurately assembled and well finished. Work within the constraints of time, resources and cost.
	Evaluating 	Children talk about what they see and what they have made using simple vocabulary.	Evaluate against their design criteria. Evaluate their product as they are developed, identifying strengths and possible changes they might make. Evaluate their product by asking questions about what they have made and how they have gone about it.	Explore a range of existing books and everyday products that use simple sliders and leavers. Explore and evaluate a range of products with wheels and axels. Evaluate their product by discussing how well it works in relation to the purpose and the user and whether it meets the design criteria.	Investigate a range of mechanisms relevant to the project. Test 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 /structure.	Investigate and analyse books and where available other products with lever and linkage/ pneumatic mechanisms. Evaluate their own products and ideas against criteria and user needs as they design and make.	Evaluate their product identifying strengths and areas for development. Record their evaluations using drawings and labels. Evaluate against their original criteria and suggest ways that their product could be improved.	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.
	Technical Knowledge and Understanding 	Children can make simple flaps and hinges with paper. Can cut, shape and join using scissors, glue, paper fasteners and masking tape.	Begin to explore and use sliders and levers. Can observe that different mechanisms produce different movements. Beginning to use technical vocabulary. Beginning to use wheels and axels to make moving parts.	Explore and use sliders and levers. Understand that different mechanisms produce different types of movement. Know and use technical vocabulary relevant to the project. Explore and use wheels and axels and axel holders. Distinguish between fixed and moving axels.	Understand how sliders and levers work and can explain how they work. Know and use technical vocabulary relevant to the project. Children can make wheels and axels with more independence and can decide if a fixed or moving axel is best for purpose.	Understand and use lever and linkage mechanisms. Understand and use pneumatic/cam and gear mechanisms. Distinguish between fixed and loose pivots. Know and use technical vocabulary relevant to the project.	Begin to understand how pulleys/gears and cams produce different types of movement. Can create different movements with fixed and loose pivots. Know and use technical vocabulary relevant to the project.	Understand that mechanical systems have an input, process and output. Understand how cams/gears/pulleys can be used to produce different types of movement and change the direction of movement. (slow down or change direction of movement). Know and use technical vocabulary relevant to the project.

Electrical 	Designing 				Generate ideas for an item considering its purpose and user/s. Identify a purpose and establish criteria for a successful product. Use labelled drawings to communicate ideas. May use some labels.	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.	Communicate ideas through brainstorming and identify a purpose for their product. Draw a specification for their design. Develop a clear idea of what has to be done, planning how to use materials, equipment and processes and suggesting alternative methods of making if the first attempt fails. Communicate ideas through more detailed sketches, labelled diagrams and exploded diagrams.	Develop a 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 labelled representations of electrical circuits or circuit diagrams
	Making 				Can begin to plan the main stages of making. Select and use a range of appropriate tools with some accuracy e.g. cutting, joining and finishing. Select materials and fixings according to their functional characteristics e.g. strength, flexibility, moving parts and electrical components. Know which components are needed to create a simple circuit.	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.	Select appropriate tools and techniques for making the product. Begin to formulate step by step plans with increased detail. Can select from a range of tools to measure, mark out, cut and join construction materials to make moving parts. Know what electrical components are needed to ensure the product is programmed effectively. Can choose some finishing details suitable for the intended finish.	Formulate step by step plans 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 a modify a computer control program to enable their electrical product to respond to changes in the environment.
	Evaluating 				Investigate a range of electrical/battery operated products relevant to the project. Test 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 /structure.	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.	Evaluate their product identifying strengths and areas for development. Record their evaluations using drawings and labels. Evaluate against their original criteria and suggest ways that their product could be improved.	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.
	Technical Knowledge and Understanding 				Construct a simple series electrical circuit using bulbs, switches and buzzers. Cut and join a variety of construction materials such as wood, card, plastic, reclaimed materials and glue. Know and use technical vocabulary relevant to the project.	Understand 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. Program a standalone control box, microcontroller or interface box to enhance the way the product works. Begin to understand and use computing to program and control products containing electrical systems.	Understand the essential characteristics of a series circuit and apply experience of creating a battery-powered functional electrical product	Understand and use electrical systems in their products. Understand the use of computer control systems in products. Apply their understanding of computing to program, monitor and control their products. Know and use technical vocabulary relevant to the project.

Food 	Designing 	Children represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories. Explore materials freely to develop their ideas about how to use them and what to make. Develop their own ideas and then decide which ingredients to use to.	Can design a functional and appealing product for a chosen user and purpose based on simple design criteria. Generate, develop, model and communicate their ideas through talking, mock ups and drawings.	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.	Generate ideas for an item considering its purpose and user/s. Identify a purpose and establish criteria for a successful product. Use labelled drawings to communicate ideas. May use some labels including ingredients or utensils.	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 and appropriate information and communication technology such as web based recipes to develop and communicate ideas.	Communicate ideas through brainstorming and identify a purpose for their product. Draw a specification for their product. Develop a clear idea of what has to be done, planning how to use materials, equipment and processes and suggesting alternative methods of making if the first attempt fails. Communicate ideas through more detailed recipes and labelled diagrams.	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, detailed recipes and information and communication technology as appropriate to develop and communicate ideas.
	Making 	Can use wooden utensils and blunt knives to cut, mash soft fruits. They can combine fruits to make a simple dish.	Use some simple utensils and equipment to peel, cut, slice, squeeze, grate and chop safely. Select the fruits and vegetables that complement each other based on their preferences. Children will choose a range of fruits/veg to create different colours and interests.	Use a range of 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.	Can begin to plan the main stages of making their product listing some of the main ingredients and equipment. Use utensils and equipment to carry out a range of skills to prepare food. Children choose appropriate food to fit the brief.	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.	Begin to formulate step by step plans with increased detail. Weigh and measure accurately. Apply the rules for basic food hygiene and other safe practices e.g. hazards when using the oven.	Write a step by step recipe including a list of ingredients, equipment and utensils. 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 	Children talk about what they see and what they have made using simple vocabulary.	Children will experience tasting a selection of fruits and vegetables and state which they like and dislike. Evaluate their product by asking questions about what they have made and how they have gone about it.	Taste and evaluate a range of fruit and vegetables to determine the intended user's preferences. Evaluate ideas and finished products against design criteria, including intended user and purpose.	Investigate a range of products relevant to the project. Taste the product against the original design criteria and with the intended user. Take into account others' views. Evaluate their own product against the original brief and suggest what they might change.	Carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using simple tables, charts and graphs. Evaluate the ongoing work and the final product with reference to the design criteria and the views of others.	Carry out sensory evaluations of a range of products and ingredients. Evaluate their product identifying strengths and areas for development. Record their evaluations using drawings and labels. Evaluate against their original criteria and suggest ways that their product could be improved.	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.
	Technical Knowledge and Understanding 	Know basic fruits and vegetables and can name them. Children taste new fruits and describe if they like or dislike them. Can cut soft fruits and vegetables using appropriate utensils. Use new vocabulary in different contexts.	Know some common fruit and vegetables and experiences of tasting and smelling a range of fruits. Can cut soft fruit and vegetables using appropriate utensils.	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 Guide. Know and use technical and sensory vocabulary relevant to the project.	Know some ways to prepare ingredients safely and hygienically. Have some basic knowledge and understanding about healthy eating and the Eatwell Guide. Have used some equipment and utensils and prepared and combined ingredients to make a product.	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.	Know about food hygiene, nutrition, healthy eating and varied diet. Use equipment and utensils appropriately and apply a range of techniques for measuring out, preparing and combining ingredients. Begin to understand seasonality in relation to food products and the source of different food products.	Apply knowledge about food hygiene, healthy eating and varied diets. Know how to use utensils and equipment including heat sources to prepare and cook food. Understand about seasonality in relation to food products and the source of different food products. Know and use relevant technical and sensory vocabulary.