

Design and Technology - Progression of Skills

Structures		EYFS	Across KS1 pupils will:	Across LKS2 pupils will:	Across UKS2 pupils will:
	Unit	Unit: Junk models & Making a boat	Unit: Windmills	Unit: Constructing a castle	Unit: Pavilions
	Vocabulary		<ul style="list-style-type: none"> ● <i>Client</i> ● <i>Design</i> ● <i>Evaluation</i> ● <i>Net</i> ● <i>Stable</i> ● <i>Strong</i> ● <i>Test</i> ● <i>Weak</i> ● <i>Windmill</i> ● <i>Function</i> ● <i>Man-made</i> ● <i>Mould</i> ● <i>Natural</i> ● <i>Structure</i> 	<ul style="list-style-type: none"> ● <i>2D shapes</i> ● <i>3D shapes</i> ● <i>Castle</i> ● <i>Design criteria</i> ● <i>Evaluate</i> ● <i>Facade</i> ● <i>Feature</i> ● <i>Flag</i> ● <i>Net</i> ● <i>Recyclable</i> ● <i>Scoring</i> ● <i>Stable</i> ● <i>Strong</i> ● <i>Weak</i> ● <i>Structure</i> ● <i>Tab</i> 	<ul style="list-style-type: none"> ● <i>Aesthetic</i> ● <i>Cladding</i> ● <i>Design criteria</i> ● <i>Evaluation</i> ● <i>Frame structure</i> ● <i>Function</i> ● <i>Inspiration</i> ● <i>Pavilion</i> ● <i>Reinforce</i> ● <i>Stable</i> ● <i>Structure</i> ● <i>Target audience</i> ● <i>Target customer</i> ● <i>Texture</i> ● <i>Theme</i>
Skills	Design	<ul style="list-style-type: none"> ● <i>Making verbal plans and material choices.</i> ● <i>Developing a junk model.</i> ● <i>Designing a junk model boat.</i> ● <i>Using knowledge from exploration to inform design.</i> 	<ul style="list-style-type: none"> ● <i>Learning the importance of a clear design criteria.</i> ● <i>Including individual preferences and requirements in a design.</i> <ul style="list-style-type: none"> ● <i>Generating and communicating ideas using sketching and modelling.</i> ● <i>Learning about different types of structures, found in the natural world and in everyday objects.</i> 	<ul style="list-style-type: none"> ● <i>Designing a structure with key features to appeal to a specific person/purpose.</i> ● <i>Drawing and labelling a design using 2D shapes, labelling: -the 3D shapes that will create the features - materials needed and colours.</i> 	<ul style="list-style-type: none"> ● <i>Designing a stable structure that is aesthetically pleasing and selecting materials to create a desired effect.</i> ● <i>Building frame structures designed to support weight.</i>
	Make	<ul style="list-style-type: none"> ● <i>Improving fine motor/scissor skills with a variety of materials.</i> ● <i>Joining materials in a variety of ways (temporary and permanent).</i> ● <i>Joining different materials together.</i> ● <i>Describing their junk model, and how they intend to put it together.</i> ● <i>Making a boat that floats and is waterproof, considering material choices.</i> 	<ul style="list-style-type: none"> ● <i>Making stable structures from card, tape and glue.</i> ● <i>Learning how to turn 2D nets into 3D structures.</i> ● <i>Making a structure according to design criteria.</i> ● <i>Creating joints and structures from paper/card and tape.</i> ● <i>Building a strong and stiff structure by folding paper.</i> 	<ul style="list-style-type: none"> ● <i>Constructing a range of 3D geometric shapes using nets.</i> ● <i>Creating special features for individual designs.</i> ● <i>Creating a range of different shaped frame structures.</i> ● <i>Making a variety of freestanding frame structures of different shapes and sizes.</i> 	<ul style="list-style-type: none"> ● <i>Selecting appropriate materials to build a strong structure and cladding.</i> ● <i>Reinforcing corners to strengthen a structure.</i> ● <i>Creating a design in accordance with a plan.</i> ● <i>Learning to create different textural effects with materials.</i>

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Evaluate	<ul style="list-style-type: none"> • Giving a verbal evaluation of their own and others' junk models with adult support. • Checking to see if their model matches their plan. • Considering what they would do differently if they were to do it again. • Describing their favourite and least favourite part of their model. • Making predictions about, and evaluating different materials to see if they are waterproof. • Making predictions about, and evaluating existing boats to see which floats best. • Testing their design and reflecting on what could have been done differently. • Investigating the how the shapes and structure of a boat affect the way it moves. 	<ul style="list-style-type: none"> • Evaluating according to the design criteria, testing whether the structure is strong and stable and altering it if it isn't • Suggest points for improvements • Exploring the features of structures. • Comparing the stability of different shapes. • Testing the strength of own structures. • Identifying the weakest part of a structure. • Evaluating the strength, stiffness and stability of own structure. 	<ul style="list-style-type: none"> • Evaluating own work and the work of others based on the aesthetic of the finished product and in comparison to the original design. • Suggesting points for modification of the individual designs. 	<ul style="list-style-type: none"> •Evaluating structures made by the class. • Describing what characteristics of a design and construction made it the most effective. • Considering effective and ineffective designs.
Technical Knowledge	<ul style="list-style-type: none"> • To know there are a range to different materials that can be used to make a model and that they are all slightly different. • Making simple suggestions to fix their junk model. • To know that 'waterproof' materials are those which do not absorb water. 	<ul style="list-style-type: none"> • To understand that the shape of materials can be changed to improve the strength and stiffness of structures. • To understand that cylinders are a strong type of structure (e.g. the main shape used for windmills and lighthouses). • To understand that axles are used in structures and mechanisms to make parts turn in a circle. • To begin to understand that different structures are used for different purposes. • To know that a structure is something that has been made and put together. • To understand that the shape of a structure affects its strength. • To know that materials can be manipulated to improve strength and stiffness. • To know that a structure is something which has been formed or made from parts. • To know that a 'stable' structure is one which is firmly fixed and unlikely to change or move. 	<ul style="list-style-type: none"> • To understand that wide and flat based objects are more stable. • To understand the importance of strength and stiffness in structures. 	<ul style="list-style-type: none"> • To understand what a frame structure is. • To know that a 'free-standing' structure is one which can stand on its own.

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			<ul style="list-style-type: none"> • To know that a 'strong' structure is one which does not break easily. • To know that a 'stiff' structure or material is one which does not bend easily. 		
	Additional	<ul style="list-style-type: none"> • To know that some objects float and others sink. • To know the different parts of a boat 	<ul style="list-style-type: none"> • To know that a client is the person I am designing for. • To know that design criteria is a list of points to ensure the product meets the clients' needs and wants. • To know that a windmill harnesses the power of wind for a purpose like grinding grain, pumping water or generating electricity. • To know that windmill turbines use wind to turn and make the machines inside work. • To know that a windmill is a structure with sails that are moved by the wind. • To know the three main parts of a windmill are the turbine, axle and structures. • To know that natural structures are those found in nature. • To know that man-made structures are those made by people 	<ul style="list-style-type: none"> • To know the following features of a castle: flags, towers, battlements, turrets, curtain walls, moat, drawbridge and gatehouse - and their purpose. • To know that a façade is the front of a structure. • To understand that a castle needed to be strong and stable to withstand enemy attack. • To know that a paper net is a flat 2D shape that can become a 3D shape once assembled. • To know that a design specification is a list of success criteria for a product 	<ul style="list-style-type: none"> • To know that a pavilion is a decorative building or structure for leisure activities. • To know that cladding can be applied to structures for different effects. • To know that aesthetics are how a product looks. • To know that a product's function means its purpose. • To understand that the target audience means the person or group of people a product is designed for. • To know that architects consider light, shadow and patterns when designing.

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Textiles		EYFS	KS1	LKS2	UKS2
Skills	Design				
	Make		<p>Use sketchbooks to explore ideas in an open-ended way.</p> <p>Experiment in sketchbooks, using drawing to record ideas.</p> <p>Use sketchbooks to help make decisions about what to try out next.</p>	<p>Use sketchbooks for a wider range of purposes, for example recording things using drawing and annotations, planning and taking next steps in a making process.</p> <p>Use sketchbooks purposefully to improve understanding, develop ideas and plan for an outcome</p>	<p>Confidently use sketchbooks for purposes including recording observations and research, testing materials and working towards an outcome more independently.</p> <p>Using a systematic and independent approach, research, test and develop ideas and plans using sketchbooks.</p>
	Evaluate		<p>Experiment with paint, using a wide variety of tools (eg brushes, sponges, fingers) to apply paint to a range of different surfaces.</p> <p>Begin to explore colour mixing.</p> <p>Play with combinations of materials to create simple collage effects.</p> <p>Select materials based on their properties, eg shiny, soft.</p> <p>Begin to develop some control when painting, applying knowledge of colour and how different media behave eg adding water to thin paint.</p> <p>Create a range of secondary colours by using different amounts of each starting colour or adding water.</p> <p>Make choices about which materials to use for collage based on colour, texture, shape and pattern.</p> <p>Experiment with overlapping and layering materials to create interesting effects.</p>	<p>Select and use a variety of painting techniques, including applying their drawing skills, using their knowledge of colour mixing and making choices about suitable tools for a task eg choosing a fine paintbrush for making detailed marks.</p> <p>Mix colours with greater accuracy and begin to consider how colours can be used expressively.</p> <p>Modify chosen collage materials in a range of ways eg by cutting, tearing, re-sizing or overlapping. In sketchbooks, use collage as a means of collecting ideas.</p> <p>Explore the way paint can be used in different ways to create a variety of effects, eg creating a range of marks and textures in paint.</p> <p>Develop greater skill and control when using paint to depict forms, eg beginning to use tone by mixing tints and shades of colours to create 3D effects.</p> <p>Work selectively, choosing and adapting collage materials to create contrast and considering overall composition.</p>	<p>Apply paint with control in different ways to achieve different effects, experimenting with techniques used by other artists and applying ideas to their own artworks eg making choices about painting surfaces or mixing paint with other materials.</p> <p>Develop a painting from a drawing or other initial stimulus. Explore how collage can extend original ideas. Combine a wider range of media, eg photography and digital art effects.</p> <p>Manipulate paint and painting techniques to suit a purpose, making choices based on their experiences. Analyse and describe the elements of other artists' work, e.g. the effect of colour or composition..</p> <p>Consider materials, scale and techniques when creating collage and other mixed media pieces.</p> <p>Create collage in response to a stimulus. Work collaboratively on a larger scale</p>

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<p>Knowledge of artists</p>	<p>Enjoy looking at and talking about art</p>	<p>Describe similarities and differences between practices in Art and design, eg between painting and sculpture, and link these to their own work. Talk about art they have seen using some appropriate subject vocabulary. Be able to make links between pieces of art.</p>	<p>Use subject vocabulary to describe and compare creative works. Use their own experiences to explain how art works may have been made. Use subject vocabulary confidently to describe and compare creative works. Use their own experiences of techniques and making processes to explain how art works may have been made.</p>	<p>Research and discuss the ideas and approaches of artists across a variety of disciplines, being able to describe how the cultural and historical context may have influenced their creative work. Describe, interpret and evaluate the work, ideas and processes used by artists across a variety of disciplines, being able to describe how the cultural and historical context may have influenced their creative work</p>
<p>Evaluating and analysing</p>	<p>Talk about their artwork, stating what they feel they did well.</p>	<p>Describe and compare features of their own and other's art work. Explain their ideas and opinions about their own and other's art work, giving reasons. Begin to talk about how they could improve their own work.</p>	<p>Confidently explain their ideas and opinions about their own and other's art work, giving reasons. Use sketchbooks as part of the problem-solving process and make changes to improve their work. Build a more complex vocabulary when discussing their own and others' art. Evaluate their work more regularly and independently during the planning and making process.</p>	<p>Discuss the processes used by themselves and by other artists, and describe the particular outcome achieved. Use their knowledge of tools, materials and processes to try alternative solutions and make improvements to their work. Give reasoned evaluations of their own and others work which takes account of context and intention. Independently use their knowledge of tools, materials and processes to try alternative solutions and make improvements to their work.</p>

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Sculpture and 3D	EYFS	KS1	LKS2	UKS2
Generating ideas	Explore and play with clay and playdough to make child-led creations.	Explore their own ideas using a range of media. Begin to generate ideas from a wider range of stimuli, exploring different media and techniques.	Generate ideas from a range of stimuli and carry out simple research and evaluation as part of the making process. Generate ideas from a range of stimuli, using research and evaluation of techniques to develop their ideas and plan more purposefully for an outcome.	Develop ideas more independently from their own research. Explore and record their plans, ideas and evaluations to develop their ideas towards an outcome. Draw upon their experience of creative work and their research to develop their own starting points for creative outcomes.
Sketch books	N/A	Use sketchbooks to explore ideas in an open-ended way. Experiment in sketchbooks, using drawing to record ideas. Use sketchbooks to help make decisions about what to try out next.	Use sketchbooks for a wider range of purposes, for example recording things using drawing and annotations, planning and taking next steps in a making process Use sketchbooks purposefully to improve understanding, develop ideas and plan for an outcome.	Confidently use sketchbooks for purposes including recording observations and research, testing materials and working towards an outcome more independently. Using a systematic and independent approach, research, test and develop ideas and plans using sketchbooks.
Making skills (Formal Elements)	Push, pull and twist a range of modelling materials to affect the shape. Create child-led 3D forms from natural materials. Join materials in different ways e.g. using sticky tape to attach materials, making simple joins when modelling with playdough.	Use their hands to manipulate a range of modelling materials, including paper and card. Explore how to join and fix materials in place. Create 3D forms to make things from their imagination or recreate things they have seen. Develop understanding of sculpture to construct and model simple forms. Use hands and tools with confidence when cutting, shaping and joining paper, card and malleable materials. Develop basic skills for shaping and joining clay, including exploring surface texture.	Able to plan and think through the making process to create 3D forms using a range of materials. Shape materials for a purpose, positioning and joining materials in new ways (tie, bind, stick, fold). Experiment with combining found objects and recyclable material to create sculpture Explore how different materials can be shaped and joined, using more complex techniques such as carving and modelling wire. Show an understanding of appropriate finish and present work to a good standard. Respond to a stimulus and begin to make choices about materials and techniques used to work in 3D.	Investigate how scale, display location and interactive elements impact 3D art. Plan a 3D artwork to communicate a concept, developing an idea in 2D into three-dimensions. Persevere when constructions are challenging and work to problem solve more independently. Uses personal plans and ideas to design and construct more complex sculptures and 3D forms. Combine materials and techniques appropriately to fit with ideas. Confidently problem-solve, edit and refine to create desired effects and end results.
Knowledge of artists	Enjoy looking at and talking about art	Describe similarities and differences between practices in Art and design, eg between painting and sculpture, and link these to their own work. Talk about art they have seen using some appropriate subject vocabulary. Be able to make links between pieces of art.	Use subject vocabulary to describe and compare creative works. Use their own experiences to explain how art works may have been made. Use subject vocabulary confidently to describe and compare creative works.	Research and discuss the ideas and approaches of artists across a variety of disciplines, being able to describe how the cultural and historical context may have influenced their creative work. Describe, interpret and evaluate the work, ideas and processes used by artists across a variety of disciplines, being able to describe

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			Use their own experiences of techniques and making processes to explain how art works may have been made.	how the cultural and historical context may have influenced their creative work.
Evaluating and analysing	Talk about their artwork, stating what they feel they did well.	Describe and compare features of their own and other's art work. Explain their ideas and opinions about their own and other's art work, giving reasons. Begin to talk about how they could improve their own work.	Confidently explain their ideas and opinions about their own and other's art work, giving reasons. Use sketchbooks as part of the problem-solving process and make changes to improve their work. Build a more complex vocabulary when discussing their own and others' art. Evaluate their work more regularly and independently during the planning and making process.	Discuss the processes used by themselves and by other artists, and describe the particular outcome achieved. Use their knowledge of tools, materials and processes to try alternative solutions and make improvements to their work. Give reasoned evaluations of their own and others work which takes account of context and intention. Independently use their knowledge of tools, materials and processes to try alternative solutions and make improvements to their work

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Craft and Design	EYFS	KS1	LKS2	UKS2
Generating ideas	Explore and play with a range of media to make child-led creations.	Explore their own ideas using a range of media. Begin to generate ideas from a wider range of stimuli, exploring different media and techniques.	Generate ideas from a range of stimuli and carry out simple research and evaluation as part of the making process. Generate ideas from a range of stimuli, using research and evaluation of techniques to develop their ideas and plan more purposefully for an outcome.	Develop ideas more independently from their own research. Explore and record their plans, ideas and evaluations to develop their ideas towards an outcome. Draw upon their experience of creative work and their research to develop their own starting points for creative outcomes.
Sketch books	N/A	Use sketchbooks to explore ideas in an open-ended way. Experiment in sketchbooks, using drawing to record ideas. Use sketchbooks to help make decisions about what to try out next.	Use sketchbooks for a wider range of purposes, for example recording things using drawing and annotations, planning and taking next steps in a making process. Use sketchbooks purposefully to improve understanding, develop ideas and plan for an outcome.	Confidently use sketchbooks for purposes including recording observations and research, testing materials and working towards an outcome more independently. Using a systematic and independent approach, research, test and develop ideas and plans using sketchbooks.
Making skills (Formal Elements)	Design something and stick to the plan when making. Cut, thread, join and manipulate materials with instruction and support, focusing on process over outcome.	Able to select colours, shapes and materials to suit ideas and purposes. Design and make something that is imagined or invented. Begin to develop skills such as measuring materials, cutting, and adding decoration. Respond to a simple design brief with a range of ideas. Apply skills in cutting, arranging and joining a range of materials to include card, felt and cellophane. Follow a plan for a making process, modifying and correcting things and knowing when to seek advice	Learn a new making technique (paper making) and apply it as part of their own project. Investigate the history of a craft technique and share that knowledge in a personal way. Design and make creative work for different purposes, evaluating the success of the techniques used. Learn new making techniques, comparing these and making decisions about which method to use to achieve a particular outcome. Design and make art for different purposes and begin to consider how this works in creative industries.	Design and make art for different purposes and begin to consider how this works in creative industries e.g. in architecture, magazines, logos, digital media and interior design. Extend ideas for designs through sketchbook use and research, justifying choices made during the design process. Develop personal, imaginative responses to a design brief, using sketchbooks and independent research. Justify choices made during a design process, explaining how the work of creative practitioners have influence their final outcome.
Knowledge of artists	Enjoy looking at and talking about art	Describe similarities and differences between practices in Art and design, eg between painting and sculpture, and link these to their own work. Talk about art they have seen using some appropriate subject vocabulary. Be able to make links between pieces of art.	Use subject vocabulary to describe and compare creative works. Use their own experiences to explain how art works may have been made. Use subject vocabulary confidently to describe and compare creative works.	Research and discuss the ideas and approaches of artists across a variety of disciplines, being able to describe how the cultural and historical context may have influenced their creative work. Describe, interpret and evaluate the work, ideas and processes used by artists across a

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			Use their own experiences of techniques and making processes to explain how art works may have been made.	variety of disciplines, being able to describe how the cultural and historical context may have influenced their creative work
Evaluating and analysing	Talk about their artwork, stating what they feel they did well.	Describe and compare features of their own and other's art work. Explain their ideas and opinions about their own and other's art work, giving reasons. Begin to talk about how they could improve their own work.	Confidently explain their ideas and opinions about their own and other's art work, giving reasons. Use sketchbooks as part of the problem-solving process and make changes to improve their work. Build a more complex vocabulary when discussing their own and others' art. Evaluate their work more regularly and independently during the planning and making process.	Discuss the processes used by themselves and by other artists, and describe the particular outcome achieved. Use their knowledge of tools, materials and processes to try alternative solutions and make improvements to their work. Give reasoned evaluations of their own and others work which takes account of context and intention. Independently use their knowledge of tools, materials and processes to try alternative solutions and make improvements to their work.