Design and technology and Art and design

Progression of skills and knowledge

Introduction

An overview of the **skills** and **knowledge** covered in each year group and strand across the units of lessons for those schools following our *Art and DT: Long-term plan* for the **Revised Art and design scheme.** Please see the *Art and DT: Long-term plan* document for the rationale behind the units selected to form part of the combined plan.

Please note that schools must subscribe to **both** Art and design and Design and technology subjects to have access to all the units referenced in this document.

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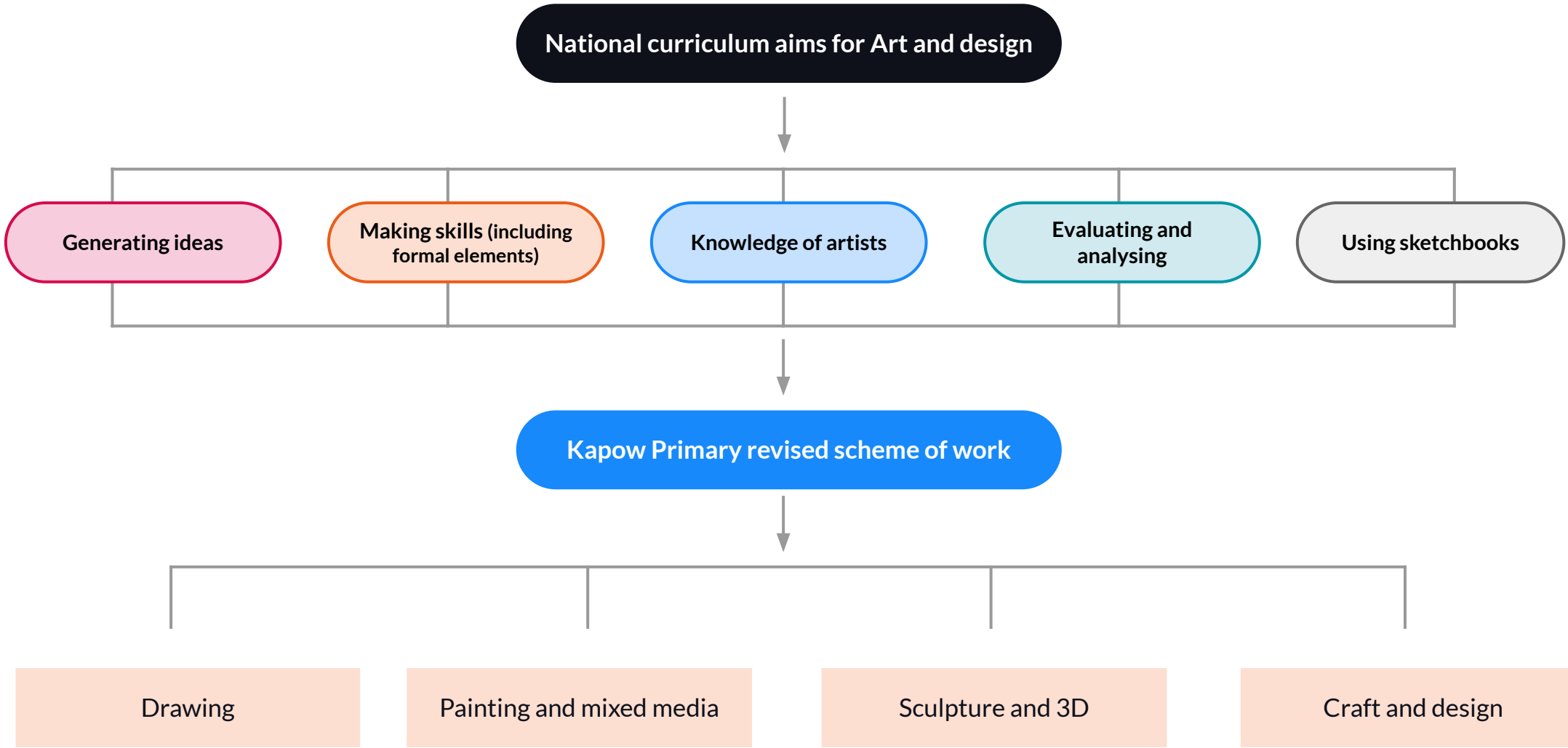
How is the Art and design scheme of work organised?



Types of knowledge in Art and design

The Ofsted research review series: Art and design, states that 'pupils make progress in the art curriculum when they build practical, theoretical and disciplinary knowledge and learn the connections between them.' This page aims to show how the Kapow curriculum and our strands achieve this.

Substantive knowledge

Practical

In order to make art with increasing proficiency, pupils need to develop practical knowledge in the following areas:

- Methods and techniques
- Media and materials
- Formal elements: Line, tone, shape, colour, form, pattern, texture.

In the Kapow Primary curriculum, this knowledge largely links to our **Making skills** strand.

Making skills (including formal elements)

Theoretical

Children gain knowledge of the history of art through our **Knowledge of artists** strand.

They consider the meanings and interpretations behind works of art that they study and explore artists' materials and processes.

Knowledge of artists

Disciplinary knowledge

Disciplinary

Disciplinary knowledge refers to the knowledge children acquire to help them understand the subject as a discipline. Pupils learn how art is studied, discussed and judged, considering our big questions:

- What is art?
- Why do people make art?
- How do people talk about art?

In our scheme, the strand **Evaluating and analysing** covers this knowledge.

Evaluating and analysing

Generating ideas

Using sketchbooks

The three domains of knowledge, and the interplay between them, enable pupils to **generate ideas** and **use sketchbooks** to develop their own artistic identity.

		Drawing		
		EYFS: Reception	**Year 1**	**Year 2**
		Pupils know how to:		
Methods, techniques, media and materials **(Formal elements are shown in brackets)**	**Mark-making**	• Explore mark-making in different surfaces such as sand, mud playdough and rice with fingers or sticks (Line, Texture). • Begin to draw simple closed shapes that could represent objects, e.g. a circle for a face (Line, Shape).	• Draw different lines by varying the control and pressure, e.g. straight, wavy, zig zags, broken, lighter, darker, etc (Line, Pattern). • Notice 2D shapes within objects and how they can be used to form the 'bones' of a drawing (Shape). • Draw and combine geometric shapes (Line, Shape). • Identify known shapes (in different sizes and orientations*) in objects, scenes or images they wish to draw (Shape, Line).	• Use and describe more complex lines and marks that might begin to reflect texture, e.g. overlapping, varying speed and varying pressure (Line, Texture). • Recognise that shapes and marks can be refined rather than accepting the first attempt (Line, Shape). • Compose more complex drawings by combining shapes (Shape, Space).
	Shading	• Describe when colouring is lighter or darker (Tone).	• Apply more pressure when drawing or colouring to create a darker tone (Tone). • Create an area with a single, consistent tone when colouring/shading (Tone).	• Use shading to show light and dark areas (Tone). • Use the same tool to colour/shade different tones by adjusting pressure (Tone).
	Spatial awareness	• Make lines and marks on paper, staying within the boundaries of the page (Space).	• Demonstrate a growing spatial awareness to represent the position and size of objects, e.g. grounded trees (Space).	• Develop spatial order by recognising objects in proportional relationship to each other, e.g. flowers are smaller than people (Shape, Space).
		So that they can:		***See skills progression here**
		Use a range of drawing materials, art application techniques, mixed-media scraps and modelling materials to create child-led art with no set outcome. Begin to develop observational skills (for example, by using mirrors to include the main features of faces)	Develop some control when using a wide range of tools to draw, paint and create crafts and sculptures. Make choices about which materials to use to create an effect. Develop observational skills to look more closely.	Further demonstrate increased control with a greater range of media. Make choices about which materials and techniques to use to create an effect. Develop observational skills to look closely and aim to reflect some of the formal elements of art (colour, pattern, texture, line, shape, form and space) in their work.

		Drawing			
		Year 3	Year 4	Year 5	Year 6
		Pupils know how to:			
Methods, techniques, media and materials **(Formal elements are shown in brackets)**	**Mark-making**	• Use and apply more complex lines and marks to represent texture, tone, pattern, etc, and describe their qualities, e.g. thick and thin (Line, Texture, Tone, Pattern). • Recognise more organic shapes within objects (shape). • Attempt to draw 3D forms using line and shape (Line, Form, Shape).	• Use lines and marks to represent texture, pattern and light in a creative and expressive way, e.g. using bold, quick lines to depict rough texture or swirling marks to represent swaying grass (Line). • Represent geometric 3D shapes more accurately and begin to include organic forms (Line, Shape, Form). • Use a more diverse range of marks to convey a subject's form (Line, Tone, Form). • Combine lines and marks to create light and dark areas of a drawing (Tone).	• Use lines and marks in a creative way that might look more expressive and gestural, e.g. showing the essence of movement or emotion (Line). • Capture the essence of a subject through lines and marks rather than precise form, e.g. communicating emotion or emphasising certain elements of a composition (Line). • Describe the quality of lines, including identifying the movement conveyed by different lines, e.g. sweeping lines to suggest a flowing motion, sharp to suggest speed (Line). • Identify qualities and techniques that resonate and begin to develop personal style and preferences (Line, Shape, Form, Texture, Tone, Pattern).	• Explore the expressive qualities of line as part of their iterative process (Line, Shape, Texture). • Consider the desired line quality in their artwork and thoughtfully choose materials and techniques to best achieve this effect (Line, Shape, Form, Texture, Tone, Pattern).
		So that they can:		**See skills progression here**	
		Confidently use of a range of materials and tools, selecting and using these appropriately with more independence. Develop direct observation, for example by using tonal shading and starting to apply an understanding of shape to communicate form.	Demonstrate greater skill and control when drawing and painting to depict forms, such as showing an awareness of proportion and being able to create 3D forms. Use growing knowledge of different materials, combining media for effect. Apply observational skills, showing a greater awareness of composition and demonstrating the beginnings of an individual style.	Work with a range of media with control in different ways to achieve different effects, including experimenting with the techniques used by other artists. Create in a more sustained way, revisiting artwork over time and applying their understanding of tone, texture, line, colour and form.	Create expressively in their own personal style and in response to their choice of stimulus, showing the ability to develop artwork independently. Combine materials and techniques appropriately to fit with ideas.

Drawing

		Year 3	Year 4	Year 5	Year 6
		Pupils know how to:			
Methods, techniques, media and materials **(Formal elements are shown in brackets)**	**Shading**	• Place tonal shading by experimenting and recognising how it can help to show that a shape has form (Shape, Form, Tone).	• Recognise the impact of light on form (e.g. where it hits 3D objects and where shadows form) (Shape, Form, Tone). • Start to depict an object's form with tonal shading, highlighting the presence and absence of light (Form, Tone). • Create a gradation effect, smoothly transitioning from light tones, to mid tones, to dark tones (Tone).	• Refine tonal shading to show greater graduations in tone (Tone, Form). • Blend to smooth transitions in tone (Tone). • Use shading techniques such as cross hatching, to create texture as well as depth (Tone, Texture, Form).	• Further develop shading techniques by creatively selecting and combining tools and techniques to align with their artistic intentions (Tone, Form, Texture, Pattern).
	Spatial awareness	• Sketch out an idea or composition using short, fast, light strokes and 2D shapes (Space, Shape, Line).	• Sketch to plan the placement of their composition elements for visual effect (Space). • Draw more accurately in relative size/proportion (Space). • Recognise whether something is in the foreground or background of a composition and how size can show distance (Space).	• Use sketching to experiment with ideas, layout and shading. (Space) • Consider balance and symmetry / asymmetry in compositions (Space). • Start using size to develop a foreground, midground and background in compositions (Space).	• Find a point in the distance to draw from (one-point perspective) (Space, Line). • Scale drawings up or down while aiming to keep proportion (Space).
		So that they can:		**See skills progression here**	
		Confidently use of a range of materials and tools, selecting and using these appropriately with more independence. Develop direct observation, for example by using tonal shading and starting to apply an understanding of shape to communicate form.	Demonstrate greater skill and control when drawing and painting to depict forms, such as showing an awareness of proportion and being able to create 3D forms. Use growing knowledge of different materials, combining media for effect. Apply observational skills, showing a greater awareness of composition and demonstrating the beginnings of an individual style.	Work with a range of media with control in different ways to achieve different effects, including experimenting with the techniques used by other artists. Create in a more sustained way, revisiting artwork over time and applying their understanding of tone, texture, line, colour and form.	Create expressively in their own personal style and in response to their choice of stimulus, showing the ability to develop artwork independently. Combine materials and techniques appropriately to fit with ideas.

Painting and mixed media

	EYFS: Reception	Year 1	Year 2
Methods, techniques, media and materials	**Pupils know how to:**		
	• Explore paint, using hands as a tool. • Describe colours and textures as they paint. • Explore what happens when paint colours mix. • Make natural painting tools. • Investigate natural materials eg paint, water for painting. • Explore paint textures, for example mixing in other materials or adding water. • Respond to a range of stimuli when painting. • Use paint to express ideas and feelings. • Explore colours, patterns and compositions when combining materials in collage.	• Combine primary coloured materials to make secondary colours. • Mix secondary colours in paint. • Choose suitable sized paint brushes. • Clean a paintbrush to change colours. • Print with objects, applying a suitable layer of paint to the printing surface. • Overlap paint to mix new colours. • Use blowing to create a paint effect. • Make a paint colour darker or lighter (creating shades) in different ways eg. adding water, adding a lighter colour.	• Mix a variety of shades of a secondary colour. • Make choices about amounts of paint to use when mixing a particular colour. • Match colours seen around them. • Create texture using different painting tools. • Make textured paper to use in a collage. • Choose and shape collage materials eg cutting, tearing. • Compose a collage, arranging and overlapping pieces for contrast and effect. • Add painted detail to a collage to enhance/improve it.
	So that they can:		**See skills progression here**
	Use a range of drawing materials, art application techniques, mixed-media scraps and modelling materials to create child-led art with no set outcome.	Develop some control when using a wide range of tools to draw, paint and create crafts and sculptures. Make choices about which materials to use to create an effect.	Further demonstrate increased control with a greater range of media. Make choices about which materials and techniques to use to create an effect. Use hands and tools with confidence when cutting, shaping and joining paper, card and malleable materials. Develop observational skills to look closely and aim to reflect some of the formal elements of art (colour, pattern, texture, line, shape, form and space) in their work.

Painting and mixed media

	Year 4	Year 5
	Pupils know how to:	
Methods, techniques, media and materials	• Mix a tint and a shade by adding black or white. • Use tints and shades of a colour to create a 3D effect when painting. • Apply paint using different techniques eg. stippling, dabbing, washing. • Choose suitable painting tools. • Arrange objects to create a still life composition. • Plan a painting by drawing first. • Organise painting equipment independently, making choices about tools and materials.	• Develop a drawing into a painting. • Create a drawing using text as lines and tone. • Experiment with materials and create different backgrounds to draw onto. • Use a photograph as a starting point for a mixed-media artwork. • Take an interesting portrait photograph, exploring different angles. • Adapt an image to create a new one. • Combine materials to create an effect. • Choose colours to represent an idea or atmosphere. • Develop a final composition from sketchbook ideas.
	So that they can:	**See skills progression here**
	Demonstrate greater skill and control when drawing and painting to depict forms, such as showing an awareness of proportion and being able to create 3D effects. Apply observational skills, showing a greater awareness of composition and demonstrating the beginnings of an individual style.	Work with a range of media with control in different ways to achieve different effects, including experimenting with the techniques used by other artists. Combine a wider range of media, eg photography and digital art effects. Create in a more sustained way, revisiting artwork over time and applying their understanding of tone, texture, line, colour and form.

Sculpture and 3D

	EYFS: Reception	Year 1	Year 2
Methods, techniques, media and materials	**Pupils know how to:**		
	• Explore the properties of clay. • Use modelling tools to cut and shape soft materials eg. playdough, clay. • Select and arrange natural materials to make 3D artworks. • Talk about colour, shape and texture and explain their choices. • Plan ideas for what they would like to make. • Problem-solve and try out solutions when using modelling materials. • Develop 3D models by adding colour.	• Roll and fold paper. • Cut shapes from paper and card. • Cut and glue paper to make 3D structures. • Decide the best way to glue something. • Create a variety of shapes in paper, eg spiral, zig-zag. • Make larger structures using newspaper rolls.	• Smooth and flatten clay. • Roll clay into a cylinder or ball. • Make different surface marks in clay. • Make a clay pinch pot. • Mix clay slip using clay and water. • Join two clay pieces using slip. • Make a relief clay sculpture. • Use hands in different ways as a tool to manipulate clay. • Use clay tools to score clay.
	So that they can:		**See skills progression here**
	Use a range of drawing materials, art application techniques, mixed-media scraps and modelling materials to create child-led art with no set outcome. Cut, thread, join and manipulate materials safely, focussing on process over outcome. Begin to develop observational skills (for example, by using mirrors to include the main features of faces.)	Develop some control when using a wide range of tools to draw, paint and create crafts and sculptures. Explore and analyse a wider variety of ways to join and fix materials in place.	Further demonstrate increased control with a greater range of media. Make choices about which materials and techniques to use to create an effect. Use hands and tools with confidence when cutting, shaping and joining paper, card and malleable materials. Develop observational skills to look closely and aim to reflect some of the formal elements of art (colour, pattern, texture, line, shape, form and space) in their work.

Sculpture and 3D

	Year 3	Year 5	Year 6
Methods, techniques, media and materials	**Pupils know**		
	How to: • Join 2D shapes to make a 3D form. • Join larger pieces of materials, exploring what gives 3D shapes stability. • Shape card in different ways eg. rolling, folding and choose the best way to recreate a drawn idea. • Identify and draw negative spaces. • Plan a sculpture by drawing. • Choose materials to scale up an idea. • Create different joins in card eg. slot, tabs, wrapping. • Add surface detail to a sculpture using colour or texture. • Display sculpture.	How to: • Make an explosion drawing in the style of Cai Guo-Qiang, exploring the effect of different materials. • Try out ideas on a small scale to assess their effect. • Use everyday objects to form a sculpture. • Transform and manipulate ordinary objects into sculpture by wrapping, colouring, covering and joining them. • Try out ideas for making a sculpture interactive. • Plan an installation proposal, making choices about light, sound and display.	How to: • Translate a 2D image into a 3D form. • Manipulate cardboard to create 3D forms (tearing, cutting, folding, bending, ripping). • Manipulate cardboard to create different textures. • Make a cardboard relief sculpture. • Make visual notes to generate ideas for a final piece. • Translate ideas into sculptural forms.
	So that they can:		**See skills progression here**
	Confidently use of a range of materials and tools, selecting and using these appropriately with more independence. Use hands and tools confidently to cut, shape and join materials for a purpose. Develop direct observation, for example by using tonal shading and starting to apply an understanding of shape to communicate form and proportion.	Work with a range of media with control in different ways to achieve different effects, including experimenting with the techniques used by other artists. Combine a wider range of media, eg photography and digital art effects. Create in a more sustained way, revisiting artwork over time and applying their understanding of tone, texture, line, colour and form.	Create expressively in their own personal style and in response to their choice of stimulus, showing the ability to develop artwork independently. Combine materials and techniques appropriately to fit with ideas. Work in a sustained way over several sessions to complete a piece, including working collaboratively on a larger scale and incorporating the formal elements of art.

Craft and design

	Year 3	Year 4	Year 6
Methods, tech-niques, media and materials.	**Pupils know**		
	• That layering materials in opposite directions make the handmade paper stronger. How to: • Use a sketchbook to research a subject using different techniques and materials to present ideas. • Construct a new paper material using paper, water and glue • Use symbols to reflect both literal and figurative ideas. • Produce and select an effective final design. • Make a scroll. • Make a zine. • Use a zine to present information.	• That a mood board is a visual collection which aims to convey a general feeling or idea. • That batik is a traditional fabric decoration technique that uses hot wax. How to: • Select imagery and use as inspiration for a design project. • To know how to make a mood board. • Recognise a theme and develop colour palettes using selected imagery and drawings. • Draw small sections of one image to docs on colours and texture. • Develop observational drawings into shapes and pattern for design. • Transfer a design using a tracing method. • Make a repeating pattern tile using cut and torn paper shapes. • Ue glue as an alternative batik technique to create patterns on fabric. • Use materials, like glue, in different ways depending on the desired effect. • Paint on fabric. • Wash fabric to remove glue to finish a decorative fabric piece.	• How different materials can be used to produce photorealistic artwork. • That macro photography is showing a subject as larger than it is in real life. How to: • Create a photomontage. • Create artwork for a design brief. • Use a camera or tablet for photography. • Identify the parts of a camera. • Take a macro photo, choosing an interesting composition. • Manipulate a photograph using photo editing tools. • Use drama and props to recreate imagery. • Take a portrait photograph. • Use a grid method to copy a photograph into a drawing.
	So that they can:		**See skills progression here**
	Confidently use of a range of materials and tools, selecting and using these appropriately with more independence. Use hands and tools confidently to cut, shape and join materials for a purpose.	Use growing knowledge of different materials, combining media for effect. Use more complex techniques to shape and join materials, such as carving and modelling wire.	Create expressively in their own personal style and in response to their choice of stimulus, showing the ability to develop artwork independently. Combine materials and techniques appropriately to fit with ideas.

	EYFS: Reception	Year 1	Year 2
Pupils know:			
Colour	The names of a wide range of colours. Colours can be mixed to make new colours.	That the primary colours are red, yellow and blue. Primary colours can be mixed to make secondary colours.	Different amounts of paint and water can be used to mix hues of secondary colours *(statement also included under 'Tone')*. Colours can be mixed to 'match' real life objects or to create things from your imagination.
Form	Modelling materials can be shaped using hands or tools.	Paper can change from 2D to 3D by folding, rolling and scrunching it. That three dimensional art is called sculpture.	Pieces of clay can be joined using the 'scratch and slip' technique. A clay surface can be decorated by pressing into it or by joining pieces on.
Shape	The names of simple shapes in art.	A range of common shapes so they can identify and use them in their artwork. Paper can be shaped by cutting and folding it.	Collage materials can be shaped to represent shapes in an image. Shapes can be organic (natural) and irregular. Patterns can be made using shapes. Objects can be recreated by identifying and combining basic shapes.
Line	Lines can be curved or straight and described in simple terms such as: wiggly,' 'straight,' 'round'.	Using different tools or using the same tool in different ways can create different types of lines.	Lines can be used to fill shapes, to make outlines and to add detail, pattern and texture.

	EYFS: Reception	Year 1	Year 2
Pupils know:			
Pattern	When they have made a pattern with objects/colours/drawn marks and be able to describe it.	That a pattern is a design in which shapes, colours or lines are repeated. Lines can create patterns like zig zags and wavy lines.	Patterns can be used to add detail to an artwork.
Texture	Simple terms to describe what something feels like (eg. bumpy).	Different tools, and how they are used, create different types of marks.	That texture means 'what something feels like'. Different marks can be used to represent the textures of objects. Collage materials can be chosen to represent real-life textures. Collage materials can be overlapped and overlaid to add texture. Painting tools can create varied textures in paint.
Tone	There are different shades of the same colour and identify colours as 'light' or 'dark'.	That there are many different shades (or 'hues') of the same colour. Changing the amount of the primary colours mixed affects the shade of the secondary colour produced. Changing pressure when drawing can create light and dark tones.	Different amounts of paint and water can be used to mix hues of secondary colours *(statement also included under 'Colour')*.
Space		They can arrange parts of a familiar subject so their artwork looks recognisable.	That 'composition' means how things are arranged on the page. Thinking about the relative size of different parts helps their artwork look balanced and recognisable.

	Year 3	Year 4	Year 5	Year 6
Pupils know:				
Colour	Using light and dark colours next to each other creates contrast.	Adding black to a colour creates a shade. Adding white to a colour creates a tint.	Artists use colour to create an atmosphere or to represent feelings in an artwork, for example by using warm or cool colours.	Colours can be symbolic and have meanings that vary according to your culture or background, eg red for danger or for celebration.
Form	Three dimensional forms are either organic (natural) or geometric (mathematical shapes, like a cube). Organic forms can be abstract.	Using lighter and darker tones of a colour help to create 3D effects and show the form of an object.	The size and scale of three-dimensional artwork changes the effect of the piece.	The surface textures created by different materials can help suggest form in two-dimensional art work.
Shape	Negative shapes show the space around and between objects. Artists can focus on shapes when making abstract art.	How to use basic shapes to form more complex shapes and patterns.	Shapes can be used to place the key elements in a composition and help to create compositions with depth.	Elements such as perspective, depth and abstraction can change how shapes appear in a composition.
Line	Combining more complex lines and marks can represent texture, tones and patterns.	Lines can be lighter or darker, or thicker or thinner to illustrate the form and tone of an object.	Lines can be used by artists to control what the viewer looks at within a composition, eg by using diagonal lines to draw your eye into the centre of a drawing. Lines and marks can be expressive and show movement or emotion.	How line is used beyond drawing and can be applied to other art forms.

	Year 3	Year 4	Year 5	Year 6
Pupils know:				
Pattern	Pattern can be man-made (like a printed wallpaper) or natural (like a giraffe's skin).	Patterns can be irregular, and change in ways you wouldn't expect.	Artists create pattern to add expressive detail to art works, for example Chila Kumari Singh Burman using small everyday objects to add detail to sculptures.	Pattern can be created in many different ways, eg in the rhythm of brushstrokes in a painting (like the work of van Gogh) or in repeated shapes within a composition.
Texture	Texture in an artwork can be real (what the surface actually feels like) or a surface can be made to appear textured.	Complex marks can represent the textures and qualities of different surfaces.	Different marks can be used to suggest real-world textures and movement.	*N/A (in the combined progression of skills)*
Tone	That 'tone' in art means 'light and dark'. Some basic rules for shading when drawing, eg shade in one direction, blending tones smoothly and with no gaps. Shading creates different tones in artwork by changing the applied pressure. Shading helps make drawn objects look realistic by giving them form (dimension).	Using lighter and darker tones of a colour can create a 3D effect and show the form of an object. Tone can create contrast between light and dark, adding shadows and highlights to an artwork.	Tone can help show the foreground and background in an artwork. 'Blending' means transitioning between tones smoothly.	Variations in tone can enhance composition and create spatial illusion.
Space	Careful observation helps them decide how to place objects and shapes to create a clear composition.	Objects can appear in the foreground or background and size can be used to show distance.	Creating a foreground, middleground and background creates depth, making artwork look like it has space and distance. An art installation is often a room or environment in which the viewer 'experiences' the art all around them.	Scaling is a technique for enlarging or reducing an image while keeping the proportions the same. Using a vanishing point on a horizon can create a sense of distance in their artwork.

	EYFS: Reception	Year 1	Year 2
	Pupils know:		
Meanings	*This aspect of the curriculum is child-led; encourage discussion and individual responses to their own and other artworks.*	• Some artists are influenced by things happening around them.	• Some artists create art to make people aware of good and bad things happening in the world around them.
Interpretations	*This aspect of the curriculum is child-led; encourage discussion and individual responses to their own and other artworks.*	• Sometimes artists concentrate on how they are making something rather than what they make. • Artists living in different places at different times can be inspired by similar ideas or stories.	• Art can be figurative or abstract.
Materials and processes	• Artists use modelling materials like clay to recreate things from real life. • Artists choose colours to draw or paint with. • Artists draw many different things and use different tools to draw with. • Sometimes artists are inspired by the seasons. • Some art doesn't last long- it is temporary. • Sometimes artists cut and stick photos to make new images.	• Artists choose materials that suit what they want to make.	• Artists try out different combinations of collage materials to create the effect they want. • Artists can use the same material (felt) to make 2D or 3D artworks.
	So that they can:		**See skills progression here**
	Enjoy looking at and talking about art. Recognise that artists create varying types of art and use lots of different types of materials. Recognise that artists can be inspired by many things.	Understand how artists choose materials based on their properties in order to achieve certain effects.	Talk about art they have seen using some appropriate subject vocabulary. Create and critique both figurative and abstract art, recognising some of the techniques used. Apply their own understanding of art materials learnt from artist work to begin purposefully choosing materials for a specific effect.

Knowledge of artists

	Year 3	Year 4	Year 5	Year 6
	Pupils know:			
Meanings	• Art from the past can give us clues about what it was like to live at that time.	*N/A (in the combined curriculum)*	• Artists are influenced by what is going on around them; for example culture, politics and technology. • Artists 'borrow' ideas and imagery from other times and cultures to create new artworks. • How an artwork is interpreted will depend on the life experiences of the person looking at it.	• Artists can use symbols in their artwork to convey meaning. • Sometimes artists add extra meaning to what they create by working in places where they don't have permission to work.
Interpret-ations	• The meanings we take from art made in the past are influenced by our own ideas.	• Designers can make beautiful things to try and improve people's everyday lives. • How and where art is displayed has an effect on how people interpret it.	• Artists use self-portraits to represent important things about themselves. • Artists create works that make us question our beliefs.	• Artists find inspiration in other artist's work, adapting and interpreting ideas and techniques to create something new. • Art can be a form of protest. • Artists use art to tell stories about things that are important to them; looking at artworks from the past can reveal thoughts and opinions from that time. • Art sometimes creates difficult feelings when we look at it.

	Year 3	Year 4	Year 5	Year 6
	Pupils know:			
Materials and processes	• Artists have different materials available to them depending on when they live in history. • Artists can make their own tools. • Artists experiment with different tools and materials to create texture. • Artists can work in more than one medium. • Artist make decisions about how their work will be displayed.	• Artists choose what to include in a composition, considering both what looks good together and any message they want to communicate. • Designers collect visual ideas from a wide range of sources, sometimes collecting these as a mood board. • Artists and designers sometimes choose techniques based on the time and money available to them. • Artists use drawing to plan ideas for work in different media.	• Artists can choose their medium to create a particular effect on the viewer. • Artists can combine materials; for example digital imagery with paint or print. • Art can be interactive; the viewer becomes part of it, experiencing the artwork with more than one of the senses.	• Artists use techniques like chiaroscuro to create dramatic light and shade when drawing or painting. • Artists can use materials to respond to a feeling or idea in an abstract way. • Artists take risks to try out ideas; this can lead to new techniques being developed. • Artists can make work by collecting and combining ready-made objects to create 'assemblage'. • Artforms are always evolving as materials and techniques change over time.
	So that they can:		**See skills progression here**	
	Discuss how artists produced art in the past and understand the influence and impact of their methods and styles on art today, using their own experiences and historical evidence. Consider how to display art work, understanding how artists consider their viewer and the impact on them.	Use subject vocabulary confidently to describe and compare creative works. Understand how artists use art to convey messages through the choices they make. Work as a professional designer does, by collating ideas to generate a theme.	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. Discuss how artists create work with the intent to create an impact on the viewer. Consider what choices can be made in their own work to impact their viewer.	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. Recognise how artists use materials to respond to feelings and memory and choose materials, imagery, shape and form to create personal pieces . Understand how art forms such as photography and sculpture continually develop over time as artists seek to break new boundaries.

Theme	EYFS: Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Nature	Painting and mixed media: Paint my world Seasonal crafts: Autumn wreaths, Suncatchers		Painting and mixed media: Life in colour	Drawing: Growing artists	Craft and design: Fabric of nature		
Celebration	Seasonal crafts: Salt dough decorations, Egg threading						Sculpture and 3D: Making memories
Sustainability							
Identity	Drawing: Marvellous marks	Sculpture and 3D: Paper play	Painting and mixed media: Life in colour			Drawing: I need space Painting and mixed media: Portraits	Drawing: Make my voice heard Sculpture and 3D: Making memories
Stories				Craft and design: Ancient Egyptian scrolls		Sculpture and 3D: Interactive installation	Sculpture and 3D: Making memories
Right and wrong							Drawing: Make my voice heard
Symbols			Craft and design: Map it out	Craft and design: Ancient Egyptian scrolls		Drawing: I need space	Drawing: Make my voice heard

	EYFS: Reception	Year 1	Year 2
	Pupils know:		
What is art?	Art is: Looking, listening, thinking, collaborating, collecting, arranging, choosing, shaping, reacting, changing, joining, cutting, drawing, painting, exploring…	• Art is made in different ways. • Art is made by all different kinds of people. • An artist is someone who creates.	
Why do people make art?			• People use art to tell stories. • People make art about things that are important to them. • People make art to share their feelings. • People make art to explore an idea in different ways. • People make art to help others understand something.
	So that they can:		**See skills progression here**
How do people talk about art?	Talk about their artwork, stating what they feel they did well. Say if they like an artwork or not and begin to form opinions by explaining why.	Describe and compare features of their own and others' artwork. Evaluate art with an understanding of how art can be varied and made in different ways and by different people.	Explain their ideas and opinions about their own and others' artwork, beginning to recognise the stories and messages within in and showing an understanding of why they may have made it. Begin to talk about how they could improve their own work. Talk about how art is made.

	Year 3	Year 4	Year 5	Year 6
	Pupils know:			
What is art?	• Artists make art in more than one way. • There are no rules about what art must be. • Art can be purely decorative or it can have a purpose.	• Artists make choices about what, how and where they create art. • Artworks can fit more than one genre.	• Sometimes people disagree about whether something can be called 'art'. • Art doesn't always last for a long time; it can be temporary.	• Art doesn't have to a literal representation of something, it can sometimes be imagined and abstract. • Art can represent abstract concepts, like memories and experiences. • Art can be a digital art form, like photography.
Why do people make art?	• People use art to tell stories and communicate. • People can make art to express their views or beliefs. • People make art for fun, and to make the world a nicer place to be. • People use art to help explain or teach things. • People make art to explore big ideas, like death or nature.	• Art can be created to make money; being an artist is a job for some people. • Art, craft and design affects the lives of people who see or use something that has been created. •	• People make art to express emotion. • People make art to encourage others to question their ideas or beliefs. • People make art to portray ideas about identity. • People make art to fit in with popular ideas or fashions.	• Sometimes people make art to express their views and opinions, which can be political or topical. • Sometime people make art to create reactions. • People use art as a means to reflect on their unique characteristics.

	Year 3	Year 4	Year 5	Year 6
How do people talk about art?	**Pupils know:**			
	• People can have their own opinions about art, and sometimes disagree. • One artwork can have several meanings.	• Art is influenced by the time and place it was made, and this affects how people interpret it. • Artists may hide messages or meaning in their work. • Artists evaluate what they make and talking about art is one way to do this.	• People can explore and discuss art in different ways, for example, by visiting galleries, by discussing it, by writing about it, by using it as inspiration for their own work or by sharing ideas online. • Some artists become well-known or famous and people tend to talk more about their work because it is familiar. • Talking about plans for artwork, or evaluating finished work, can help improve what artists create. • Comparing artworks can help people understand them better.	• Art can change through new and emerging technologies that challenge people to discuss and appreciate art in a new way. • People can have varying ideas about the value of art. • Art can be analysed and interpreted in lots of ways and can be different for everyone. • Everyone has a unique way of experiencing art.
	So that they can:			**See skills progression here**
	Confidently explain their ideas and opinions about their own and others' artwork, with an understanding of the breadth of what art can be and that there are many ways to make art. Discuss and begin to interpret meaning and purpose of artwork, understanding how artists can use art to communicate. Begin to carry out a problem-solving process and make changes to improve their work.	Use more complex vocabulary when discussing their own and others' art. Discuss art considering how it can affect the lives of the viewers or users of the piece. 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. Consider how effectively pieces of art express emotion and encourage the viewer to question their own ideas. 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. Discuss how art is sometimes used to communicate social, political, or environmental views. Explain how art can be created to cause reaction and impact and be able to consider why an artist chooses to use art in this way. Independently use their knowledge of tools, materials and processes to try alternative solutions and make improvements to their work.

	EYFS (Reception)	EYFS Framework Children at the expected level of development will:	Year 1	Year 2	National curriculum Pupils should be taught:
Generating ideas	Talk about their ideas and explore different ways to record them using a range of media.	**ELG: Speaking** • Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary.	Explore their own ideas using a range of media.	Begin to generate ideas from a wider range of stimuli, exploring different media and techniques.	• To use a range of materials creatively to design and make products to use drawing, painting and sculpture to develop and share their ideas, experiences and imagination
Sketch-books	Experiment in an exploratory way.	**ELG: Expressive Arts and design: Creating with materials** • Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	Use sketchbooks to explore ideas.	Experiment in sketchbooks, using drawing to record ideas. Use sketchbooks to help make decisions about what to try out next.	
Making skills (including Formal elements)	Use a range of drawing materials, art application techniques, mixed-media scraps and modelling materials to create child-led art with no set outcome. Cut, thread, join and manipulate materials safely, focussing on process over outcome. Begin to develop observational skills (for example, by using mirrors to include the main features of faces).	**ELG: Expressive Arts and design: Creating with materials** • Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. **ELG: Physical development: Fine motor skills:** • Hold a pencil effectively in preparation for fluent writing – using the tripod grip in almost all cases; • Use a range of small tools, including scissors, paint brushes and cutlery; • Begin to show accuracy and care when drawing.	Develop some control when using a wide range of tools to draw, paint and create crafts and sculptures. Make choices about which materials to use to create an effect. Explore and analyse a wider variety of ways to join and fix materials in place. Develop observational skills to look closely.	Further demonstrate increased control with a greater range of media. Make choices about which materials and techniques to use to create an effect. Use hands and tools with confidence when cutting, shaping and joining paper, card and malleable materials. Develop observational skills to look closely and aim to reflect some of the formal elements of art (colour, pattern, texture, line, shape, form and space) in their work.	• To use a range of materials creatively to design and make products. • To develop a wide range of art and design techniques in using colour, pattern, texture, line, shape, form and space

	EYFS (Reception)	EYFS Framework Children at the expected level of development will:	Year 1	Year 2	National curriculum Pupils should be taught:
Knowledge of artists	Enjoy looking at and talking about art. Recognise that artists create varying types of art and use lots of different types of materials. Recognise that artists can be inspired by many things.	**ELG: Speaking** • Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary.	Understand how artists choose materials based on their properties in order to achieve certain effects.	Talk about art they have seen using some appropriate subject vocabulary. Create and critique both figurative and abstract art, recognising some of the techniques used. Apply their own understanding of art materials learnt from artist work to begin purposefully choosing materials for a specific effect.	• About the work of a range of artists, craft makers and designers, describing the differences and similarities between different practices and disciplines, and making links to their own work.
Evaluating and analysing	Talk about their artwork, stating what they feel they did well. Say if they like an artwork or not and begin to form opinions by explaining why.	**ELG: Expressive Arts and design: Creating with materials** • Share their creations, explaining the process they have used.	Describe and compare features of their own and others' artwork. Evaluate art with an understanding of how art can be varied and made in different ways and by different people.	Explain their ideas and opinions about their own and others' artwork, beginning to recognise the stories and messages within and showing an understanding of why they may have made it. Begin to talk about how they could improve their own work. Talk about how art is made.	

	Year 3	Year 4	Year 5	Year 6	National curriculum Pupils should be taught:
Generating ideas	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.	• To create sketch books to record their observations and use them to review and revisit ideas
Sketch-books	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 (including Formal elements)	Confidently use of a range of materials and tools, selecting and using these appropriately with more independence. Use hands and tools confidently to cut, shape and join materials for a purpose. Develop direct observation, for example by using tonal shading and starting to apply an understanding of shape to communicate form.	Demonstrate greater skill and control when drawing and painting to depict forms, such as showing an awareness of proportion and being able to create 3D forms. Use growing knowledge of different materials, combining media for effect. Use more complex techniques to shape and join materials, such as carving and modelling wire. Apply observational skills, showing a greater awareness of composition and demonstrating the beginnings of an individual style.	Work with a range of media with control in different ways to achieve different effects, including experimenting with the techniques used by other artists. Combine a wider range of media, eg photography and digital art effects. Create in a more sustained way, revisiting artwork over time and applying their understanding of tone, texture, line, colour and form.	Create expressively in their own personal style and in response to their choice of stimulus, showing the ability to develop artwork independently. Combine materials and techniques appropriately to fit with ideas. Work in a sustained way over several sessions to complete a piece, including working collaboratively on a larger scale and incorporating the formal elements of art.	• To improve their mastery of art and design techniques, including drawing, painting and sculpture with a range of materials [for example, pencil, charcoal, paint, clay] • To develop their techniques, including their control and their use of materials, with creativity, experimentation and an increasing awareness of different kinds of art, craft and design.

	Year 3	Year 4	Year 5	Year 6	National curriculum Pupils should be taught:
Knowledge of artists	Discuss how artists produced art in the past and understand the influence and impact of their methods and styles on art today, using their own experiences and historical evidence. Consider how to display art work, understanding how artists consider their viewer and the impact on them.	Use subject vocabulary confidently to describe and compare creative works. Understand how artists use art to convey messages through the choices they make. Work as a professional designer does, by collating ideas to generate a theme.	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. Discuss how artists create work with the intent to create an impact on the viewer. Consider what choices can be made in their own work to impact their viewer.	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. Recognise how artists use materials to respond to feelings and memory and choose materials, imagery, shape and form to create personal pieces . Understand how art forms such as photography and sculpture continually develop over time as artists seek to break new boundaries.	• About great artists, architects and designers in history.
Evaluating and analysing	Confidently explain their ideas and opinions about their own and others' artwork, with an understanding of the breadth of what art can be and that there are many ways to make art. Discuss and begin to interpret meaning and purpose of artwork, understanding how artists can use art to communicate. Begin to carry out a problem-solving process and make changes to improve their work.	Use more complex vocabulary when discussing their own and others' art. Discuss art considering how it can affect the lives of the viewers or users of the piece. 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. Consider how effectively pieces of art express emotion and encourage the viewer to question their own ideas 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. Discuss how art is sometimes used to communicate social, political, or environmental views. Explain how art can be created to cause reaction and impact and be able to consider why an artist chooses to use art in this way. Independently use their knowledge of tools, materials and processes to try alternative solutions and make improvements to their work.	• To develop their techniques, including their control and their use of materials, with creativity, experimentation and an increasing awareness of different kinds of art, craft and design. • About great artists, architects and designers in history.

		EYFS (Reception)	
		Junk modelling	Boats
Skills	Design	• Making verbal plans and material choices. • Developing a junk model.	• Designing a junk model boat. • Using knowledge from exploration to inform design.
	Make	• Improving fine motor/scissor skills with a variety of materials. • Joining materials in a variety of ways (temporary and permanent). • Joining different materials together. • Describing their junk model, and how they intend to put it together.	• Making a boat that floats and is waterproof, considering material choices.
	Evaluate	• 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.
Knowledge	Technical	• 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.
	Additional		• To know that some objects float and others sink. • To know the different parts of a boat.

Year 1

Option 1: Stable structures

Skills	Design	• Thinking about what others might want from a design. • Beginning to recognise how products and designs in the world around us solve certain needs. • Considering who they are designing for – identifying the user. • Stating what they intend to make and why – identifying the purpose. • Talking about ideas, with purpose and user in mind. • Talking about existing products when generating ideas. • Using basic drawing skills to communicate ideas.
	Make	• Choosing between a small number of materials, ingredients or components. • Explaining their choices based on personal experiences. • Requesting equipment appropriate to the purpose. (e.g. scissors for cutting, glue for joining) • Beginning to use objects with a fixed width or length to create even spacing of markings or cuts (e.g. a lolly stick). • Refining their grip to cut competently and confidently. • Cutting straight lines and evenly spaced lines. • Beginning to cut large shapes and thicker materials like card.
	Evaluate	• Discussing existing products, saying what they like about them. • Comparing two products and discuss which is better for a specific purpose. • Saying what they like about their peers' designs and products. • Accepting feedback and understanding it is meant to improve their work.
Knowledge	Technical	• Recognising that different structures are used for different purposes. • Exploring the features of structures. • Describing structures as buildings or freestanding structures. • Making stable structures from card. • Creating supporting structures to aid stability. • Using stable objects like cylinders to create structures.
	Additional	• To know that the 'user' is the person who will use the product. • To know that different users may want different things from a design. • To know that who they are designing for makes a difference to what they design. • To know that the purpose is what something is for. • To know that existing products can help when deciding what to design. • To know that drawings are a way to explain ideas. • To know that a plan is deciding what to do first and next. • To know that different equipment does different things. • To know the names of common pieces of equipment. • To know that some products will be better than others. • To know that their ideas or products can be made better. • To know that their ideas can makes someone else's work better. • To know that other people's ideas can help make their work better. • To know that a structure is something that has been made and put together. • To know that stable structures do not topple. • To know that shapes and structures with wide, flat bases or legs are the most stable. • To know that adding weight to the base of a structure can make it more stable.

		Year 1
		Option 2: Constructing a windmill
Skills	Design	• Learning the importance of a clear design criteria. • Including individual preferences and requirements in a design.
	Make	• Making stable structures from card, tape and glue. • Learning how to turn 2D nets into 3D structures. • Following instructions to cut and assemble the supporting structure of a windmill. • Making functioning turbines and axles which are assembled into a main supporting structure.
	Evaluate	• Evaluating a windmill according to the design criteria, testing whether the structure is strong and stable and altering it if it isn't • Suggest points for improvements
Knowledge	Technical	• 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.
	Additional	• 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 structure.

Year 2

Option 1: A chair for a bear

Skills	Design	• Using a simple design brief that outlines the intended use, target user, and key features of the product, to create simple design criteria. • Creating ideas with design criteria in mind. • Referring to specific parts of existing products when generating ideas.
	Make	• Choosing materials, ingredients or components from a wider range of materials, ingredients or components. • Explaining their choices based on the properties of materials and components. • Looking for ways to make cutting easier, like turning the material they are cutting, not fully closing scissors etc. • Choosing known geometric shapes when making. • Beginning to shape objects to improve how they work.
	Evaluate	• Discussing a range of existing products and saying what they like and dislike about them. • Comparing a range of products and explaining why some better meet different design criteria than others. • Evaluating their ideas and creations against simple design criteria.
Knowledge	Technical	• Recognising that different structures are used for different purposes. • Exploring the features of structures. • Making stable structures from card. • Creating supporting structures to aid stability. • Using stable objects like cylinders to create structures. • Building a strong and stiff structure by folding paper. • Folding to strengthen or stiffen. • Comparing the stability of different shapes. • Identifying the weakest part of a structure.
	Additional	• To know that a design brief helps to decide what to make. • To know that design criteria are the steps for making a product successful. • To know that design criteria help when thinking of ideas. • To know that different products work in different ways and have parts that make them work. • To know some properties of materials like hard, soft, flexible, waterproof, strong etc. • To know the names of some geometric shapes, triangle, pyramid, square, cube, circle, sphere. • To know that existing products can be evaluated against design criteria. • To know that design criteria help to decide if their product is a success. • To know that improve means to make something better. • To know that a structure is something that has been made and put together. • To know 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 'strong' structure is one which does not break easily. • To know that a 'stiff' structure or material is one which does not bend easily.

Structures

Year 2

Option 2: Baby bear's chair

Skills	Design	• Generating and communicating ideas using sketching and modelling. • Learning about different types of structures, found in the natural world and in everyday objects.
	Make	• Making a structure according to design criteria. • Creating joints and structures from paper/card and tape. • Building a strong and stiff structure by folding paper.
	Evaluate	• 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.
Knowledge	Technical	• To know that shapes and structures with wide, flat bases or legs are the most stable. • 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. • 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	• To know that natural structures are those found in nature. • To know that man-made structures are those made by people.

		Year 3
		Option 1: Product packaging
Skills	Design	• Creating simple design criteria that outline basic functionality and appeal to individual users or target audiences. • Beginning to use 2D CAD software to communicate their ideas.
	Make	• Creating accurate shapes from templates. • Cutting out more complex shapes accurately. • Choosing shapes to suit the function of a product.
	Evaluate	• Explaining why they think certain aspects of a peer's design are effective or why they suggested specific improvements. • Investigating and analysing a range of existing products by looking at their functionality and appeal. • Reflecting on feedback to decide if and how it could be used to improve future iterations.
Knowledge	Technical	• Beginning to understand how different structures are built. • Strengthening structures by ribbing. • Constructing a range of 3D shapes.
	Additional	• To know that creating accurate shapes improves how they look and sometimes their function. • To know good suggestions help give better feedback. • To know that they can choose to use feedback or not. • To know that a shell structure is a hollow shape with a thin outer layer. • To know that 3D shapes can form structures. • To know structures can be strengthened by manipulating materials and shapes.

		Year 3
		Option 2: Constructing a castle
Skills	Design	• Designing a castle with key features to appeal to a specific person/purpose. • Drawing and labelling a castle design using 2D shapes, labelling: -the 3D shapes that will create the features - materials needed and colours. • Designing and/or decorating a castle tower on CAD software.
	Make	• Constructing a range of 3D geometric shapes using nets. • Creating special features for individual designs. • Making facades from a range of recycled materials.
	Evaluate	• 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.
Knowledge	Technical	• To understand that wide and flat based objects are more stable. • To understand the importance of strength and stiffness in structures.
	Additional	• 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.

		Year 4	
		Option 1: Helmets	Option 2: Pavilions
Skills	Design	• Creating simple design criteria that outline basic functionality and appeal to individual users or target audiences. • Noticing simple problems or needs in everyday life. • Developing drawing and sketching skills with a focus on clarity and simplicity.	• Designing a stable pavilion structure that is aesthetically pleasing and selecting materials to create a desired effect. • Building frame structures designed to support weight.
	Make	• Selecting materials, components or ingredients based on their form as well as their functional properties. • Explaining choices with regard to function and form. • Choosing shapes to suit the function of a product.	• Creating a range of different shaped frame structures. • Making a variety of free standing frame structures of different shapes and sizes. • Selecting appropriate materials to build a strong structure and cladding. • Reinforcing corners to strengthen a structure. • Creating a design in accordance with a plan. • Learning to create different textural effects with materials.
	Evaluate	• Evaluating designs by comparing them against design criteria. • Considering feedback from peers to suggest improvements. • Evaluating how effective the chosen materials were in fulfilling the design brief.	•Evaluating structures made by the class. • Describing what characteristics of a design and construction made it the most effective. • Considering effective and ineffective designs.
Knowledge	Technical	• Strengthening structures by layering materials (lamination). • Strengthening structures by ribbing. • To know how some different structures are built. • To know that structures can be strengthened by manipulating materials and shapes. • To know a shell structure is a hollow shape with a thin outer layer.	• To understand what a frame structure is. • To know that a 'free-standing' structure is one which can stand on its own.
	Additional	• To know form is the look and shape of something. • To know function is what something does and how it works. • To know that creating accurate shapes improves how they look and sometimes their function. • To know choices of materials and equipment can affect the final product.	• To know that a pavilion is a 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.

Year 6

Option 1: Playground pioneers

Skills	Design	• Identifying more complex problem statements that consider multiple factors and constraints with guidance. • Developing more independence in generating ideas. • Coming up with a broader range of ideas and deeper innovation, requiring pupils to think critically about their ideas' practicality and originality. • Using 3D CAD software to communicate their ideas. • Using a series of prototypes to refine and improve their designs.
	Make	• Producing lists of equipment, materials and tools that they need for a task. • Selecting materials, components or ingredients based on research or user needs. • Assessing risks associated with different tools and equipment. • Understanding and explaining the importance of each safety rule. • Consistently apply safety instructions. • Using a ruler to accurately measure and draw lines and marks. • In small groups, cutting harder wood with a saw. • Cutting in a back-and-forth sawing motion where appropriate. • Balancing aesthetics and functionality when creating parts of a design. • Considering when best to apply finishing effects.
	Evaluate	• Reflecting on the usability, aesthetics, innovation and sustainability of products and discussing how design choices impact these aspects. • Assessing their designs against a more complex set of design criteria that includes functionality, aesthetics, user experience, sustainability and cost. • Considering alternative materials, tools or techniques that could enhance the product.
Knowledge	Technical	• Understanding how to reinforce structures to make them more stable. • Using triangulation to strengthen or stabilise a structure. • The know that constraints are limits or conditions when making a product. • To know that the environmental impact is how the product and making the product might affect the environment. • To know that original and innovative ideas are different from what has been made before. • To know drawings and diagrams can be communicated in 3D. • To know that annotations are detailed labels and comments on diagrams. • To know that improving on prototypes can help to improve the final design. • To know that materials and equipment lists help with planning. • To know aesthetics are the way something looks. • To know that risks are things that might go wrong. • To know the shape of an object can affect both its aesthetics and function. • To know aesthetics is how something looks. • To know that the finish can make a product suitable to be used outside.
	Additional	• To know that sustainability means thinking about the materials that were used to make a product and how the product was made. • To know that their final product can still be improved by using different materials or techniques. • To know that evaluating their designs in detail will help them understand its successful and less successful parts. • To know that a frame structure supports or holds a shape, and is made up of strong parts joined together, like a skeleton or a climbing frame. • To know how to reinforce structures. • To know triangles can be used to reinforce structures. • To know triangles can create strong and stable structures. • To know that bracing is a way of reinforcing a structure.

		Year 6
		Option 2: Playgrounds
Skills	Design	• Designing a playground featuring a variety of different structures, giving careful consideration to how the structures will be used, considering effective and ineffective designs.
	Make	• Building a range of play apparatus structures drawing upon new and prior knowledge of structures. • Measuring, marking and cutting wood to create a range of structures. • Using a range of materials to reinforce and add decoration to structures.
	Evaluate	• Improving a design plan based on peer evaluation. • Testing and adapting a design to improve it as it is developed. • Identifying what makes a successful structure.
Knowledge	Technical	• To know that structures can be strengthened by manipulating materials and shapes.
	Additional	• To understand what a 'footprint plan' is. • To understand that in the real world, design , can impact users in positive and negative ways. • To know that a prototype is a cheap model to test a design idea.

Year 2

Fairground wheel

Skills	Design	• Conducting simple surveys or discussions to gather opinions on what others need or like in a design. • Knowing that a survey is used to find out what people like. • Using a simple design brief that outlines the intended use, target user, and key features of the product, to create simple design criteria. • Knowing that a design brief helps to decide what to make. • Knowing that design criteria are the steps for making a product successful. • Creating ideas with design criteria in mind. • Referring to specific parts of existing products when generating ideas. • Knowing that the design criteria help when thinking of ideas. • Using labels to explain parts of a design, label materials, etc. • Using labels to explain parts of a design, label materials, etc. • Knowing that drawings can help explain how something works. • Knowing that a label explains part of a drawing.
	Make	• Choosing materials, ingredients or components from a wider range of materials, ingredients or components. • Explaining their choices based on the properties of materials and components. • Knowing some properties of materials like hard, soft, flexible, waterproof, strong etc. • Following and recalling simple safety instructions. • Knowing that some tools are sharp like scissors and knives. • Choosing known geometric shapes when making. • Beginning to shape objects to improve how they work. • Knowing the names of some geometric shapes: triangle, pyramid, square, cube, circle, sphere. • Considering balance in their finishing, like evenly spaced decoration.
	Evaluate	• Discussing a range of existing products and saying what they like and dislike about them. • Evaluating existing products against design criteria. • Evaluating their ideas and creations against simple design criteria. • Knowing that design criteria help to decide if their product is a success. • Suggesting improvements to their peers' designs and products. • Knowing that improve means to make something better. • Knowing that their suggestions can improve someone else's work.
Knowledge	Technical	• To know everyday objects have mechanisms. • To know many things that move have parts inside to help them work. • To know mechanisms usually limit unwanted movement. • To know everyday objects utilise wheels and axles. • To know wheels must be able to turn to work effectively. • To know axles allow wheels to turn without falling off.
	Additional	• To know the features of a fairground wheel include the wheel, frame, pods, a base an axle and an axle holder.

Mechanisms / mechanical systems

Year 2

		Option 1: Levers	Option 2: Making a moving monster
Skills	Design	• Creating ideas with design criteria in mind. • Referring to specific parts of existing products when generating ideas. • Using labels to explain parts of a design, label materials etc, including using ICT. • Integrating moving parts when creating mock-ups.	• Creating a class design criteria for a moving monster. • Designing a moving monster for a specific audience in accordance with a design criteria.
	Make	• Integrating moving parts when creating mock-ups. • Planning more than one step ahead. • Choosing materials or components from a wider range of materials or components. • Choosing between pieces of equipment that are used for the same purpose (e.g. joining) and explaining why their choice suits the task. • Explaining their choices based on the properties of materials and components. • Following and recalling simple safety instructions.	• Making linkages using card for levers and split pins for pivots. • Experimenting with linkages adjusting the widths, lengths and thicknesses of card used. • Cutting and assembling components neatly.
	Evaluate	• Discussing whether they were able to use the tools and techniques effectively. • Comparing a range of products and explaining why some better meet different design criteria than others. • Evaluating their ideas and creations against simple design criteria.	• Evaluating own designs against design criteria. • Using peer feedback to modify a final design.
Knowledge	Technical	• Recognising and exploring everyday objects that have mechanisms. • Exploring everyday objects that use levers (e.g scissors, tongs, door handle, stapler).	• To know that mechanisms are a collection of moving parts that work together as a machine to produce movement. • To know that there is always an input and output in a mechanism. • To know that an input is the energy that is used to start something working. • To know that an output is the movement that happens as a result of the input. • To know that a lever is something that turns on a pivot. • To know that a linkage mechanism is made up of a series of levers.
	Additional	• To know that different products work in different ways and have parts that make them work. • To know drawings can help explain how something works. • To know many things that move have parts inside to help make them work. • To know some properties of materials, e.g., hard, soft, flexible, waterproof, strong, etc. • To know some pieces of equipment are better suited to certain jobs. • To know some tools are sharp like scissors and knives. • To know following instructions helps with safety. • To know many things that move have parts inside to help them work. • To know mechanisms usually limit unwanted movement. • To know a pivot is the part that a lever moves around.	• To know some real-life objects that contain mechanisms.

Year 4

Mechanical cars

Skills	Design	• Taking part in structured brainstorming sessions. • Developing drawing and sketching skills with a focus on clarity and simplicity. • Beginning to recognise the benefit of a range of diagram types or prototypes to communicate ideas. (eg. sketches, cross-sectional diagram, thumbnail sketches and exploded diagrams) • Creating prototypes using materials with similar properties to their final design. • Creating simple design criteria that outline basic functionality and appeal to individual users or target audiences. • Developing designs by adding detail and justifications about materials, tools, methods.
	Make	• Following detailed safety instructions. • Using a ruler as a measuring tool with increasing accuracy by creating spaced marks using millimetres and measuring lengths of objects. • Handle different sizes and types of scissors with confidence. • With close supervision using a hot glue gun to join wooden materials (e.g. lolly sticks). • Selecting equipment required for a series of tasks based on the plan. Explain why each piece is suitable for each stage. • Selecting materials, components or ingredients from a wider choice but within a limited design space (e.g. seasonal ingredients from May and June in the UK).
	Evaluate	• Explaining why they think certain aspects of a peer's design are effective or why they suggested specific improvements. • Reflecting on feedback to decide if and how it could be used to improve future iterations. • Investigating and analysing a range of existing products by looking at their functionality and appeal. • Analysing why specific products, designers or inventors are successful. • Evaluating their designs by comparing them against design criteria and considering feedback from peers to suggest improvements. • Evaluating how effective their chosen materials and tools were in fulfilling the design brief.
Knowledge	Technical	• To understand that a mechanical system can allow us to move something more easily. • To know that mechanical systems have more than one mechanism that moves to make them work. • To know that mechanical systems are often hidden in products to make them look more appealing.
	Additional	• To know that extra information on drawings or diagrams can help the user understand a design or idea. • To know that an exploded diagram shows how the parts of a product fit together. • To know that a prototype is a detailed model that helps a user understand how a product will work. • To know that a target audience is a group of people that might like the idea. • To know that different tools and equipment have different dangers. • To know that a ruler can be used to measure length. • To know that a hot glue gun can be used to join materials. • To know that better suggestions of improvements mean better feedback. • To know that they can choose to use feedback or not. • To know that some products are more successful than other because of their function. • To know that choices of materials and equipment can affect the final product. • To know that feedback is ideas and suggestions from other people that can help improve their work.

Mechanisms / mechanical systems

Year 5

Gears and pulleys

Skills	Design	• Noticing wider-reaching problems or needs in the community. • Identifying a wide range of needs and potential barriers through market research. • Writing more complex problem statements that consider multiple factors and constraints. • Creating more complex design criteria that require considering detailed user needs, environmental impact, materials and cost. • Coming up with a broader range of ideas and deeper innovation, requiring pupils to think critically about their ideas' practicality and originality. • Beginning to use more complex annotated sketches, such as cross-sectional and exploded diagrams and pattern pieces in design. • Using a series of prototypes to refine and improve their designs.
	Make	• Consistently apply safety instructions. • Select appropriate scissors to handle delicate cutting tasks and challenging materials. • Cutting patterns and drawings accurately. • In supervised groups, using hot glue guns safely. • Recognising that hot glue is useful for joining materials that need a strong bond that sets quickly. • Choosing PVA glue over hot glue for its safety when joining materials in less intensive projects.
	Evaluate	• Reflecting on the usability, aesthetics, innovation and sustainability of products and discussing how design choices impact these aspects. • Assessing their designs against a more complex set of design criteria that includes functionality, aesthetics, user experience, sustainability and cost. • Considering alternative materials, tools or techniques that could enhance the product. • Providing feedback that is helpful, specific, and encouraging. • Incorporating feedback from peers or users improve their product further, explaining the changes they made and the impact they had.
Knowledge	Technical	• That mechanical systems that use gears in everyday objects (eg bicycle, clock). • That gears and pulleys allow us to transfer movement and force from one part of a mechanical system to another. • That gears allow us to increase the output of a mechanism.
	Additional	• That market research is a way of collecting information about problems or needs. • That constraints are things that might stop our ideas being successful. • That original and innovative ideas are different from what has been made before. • That annotations are detailed labels and comments on diagrams. • That risks are things that might happen. • That hot glue creates a strong bond quickly. • That is often better to choose safer equipment. • That sustainability means thinking about the materials that were used to make a product and how the product was made. • That their final product can still be improved by different materials or techniques. • That evaluating their designs in detail will help them understand its successful and less successful parts. • That feedback should be positive, helpful and specific. • That explaining how they used feedback to improve their design can help them create better products in the future.

Electrical systems (KS2 only)

Year 4

Torches

Skills	Design	• Designing a torch, giving consideration to the target audience and creating both design and success criteria focusing on features of individual design ideas.
	Make	• Making a torch with a working electrical circuit and switch. • Using appropriate equipment to cut and attach materials. • Assembling a torch according to the design and success criteria.
	Evaluate	• Evaluating electrical products. • Testing and evaluating the success of a final product.
Knowledge	Technical	• To understand that electrical conductors are materials which electricity can pass through. • To understand that electrical insulators are materials which electricity cannot pass through. • To know that a battery contains stored electricity that can be used to power products. • To know that an electrical circuit must be complete for electricity to flow. • To know that a switch can be used to complete and break an electrical circuit.
	Additional	• To know the features of a torch: case, contacts, batteries, switch, reflector, lamp, lens. • To know facts from the history and invention of the electric light bulb(s) - by Sir Joseph Swan and Thomas Edison.

Electrical systems (KS2 only)

Year 5

Option 1: Wobble bots

Skills	Design	• Creating more complex design criteria that require considering detailed user needs, environmental impact, materials and cost. • Developing more independence in generating ideas. • Coming up with a broader range of ideas and deeper innovation, requiring pupils to think critically about their ideas' practicality and originality. • Using a series of prototypes to refine and improve their designs.
	Make	• Producing lists of equipment, materials and tools that they need for a task. • Creating a step-by-step plan for making. • Selecting materials, components or ingredients based on research or user needs. • Explaining their choices, referring to their research. • Understanding and explaining the importance of each safety rule. • Consistently apply safety instructions. • Balancing aesthetics and functionality when creating parts of a design. • Considering when best to apply finishing effects.
	Evaluate	• Reflecting on the usability, aesthetics, innovation and sustainability of products and discussing how design choices impact these aspects. • Assessing their designs against a more complex set of design criteria that includes functionality, aesthetics, user experience, sustainability and cost. • Considering alternative materials, tools or techniques that could enhance the product. • Providing feedback that is helpful, specific, and encouraging. • Incorporating feedback from peers or users improve their product further, explaining the changes they made and the impact they had.
Knowledge	Technical	• Beginning to understand that electricity flows around a circuit. • Using different components to produce different results from electrical systems. • Creating working electrical circuits with a wider variety of electrical components. • Deconstructing electrical systems to understand how they work.
	Additional	• To know environmental impact is how the product and making the product might affect the environment. • To know original and innovative ideas are different from what has been made before. • To know annotations are detailed labels and comments on diagrams. • To know improving on prototypes can help to improve the final design. • To know materials and equipment lists help to plan better. • To know research can help decide which materials are best for both aesthetics and functional properties. • To know some equipment can work well with other equipment. • To know risks are things that might go wrong. • To know the shape of an object can affect both its aesthetics and function. • To know sustainability means thinking about the materials that were used to make a product and how the product was made. • To know looking at other designers work can help inform designs. • To know their final product can still be improved by using different materials or techniques. • To know evaluating their designs in detail will help them understand its successful and less successful parts. • To know feedback should be positive, helpful and specific. • To know explaining how they used feedback to improve their design can help them create better products in the future. • To know an electric motor converts electricity into rotational movement. • To know a motorised product is one which uses a motor to function. • To know the names of components that can form an electrical system.

Electrical systems (KS2 only)

Year 5

Option 2: Doodlers

Skills	Design	• Identifying factors that could be changed on existing products and explaining how these would alter the form and function of the product. • Developing design criteria based on findings from investigating existing products. • Developing design criteria that clarifies the target user.
	Make	• Altering a product's form and function by tinkering with its configuration. • Making a functional series circuit, incorporating a motor. • Constructing a product with consideration for the design criteria. • Breaking down the construction process into steps so that others can make the product.
	Evaluate	• Carry out a product analysis to look at the purpose of a product along with its strengths and weaknesses. • Determining which parts of a product affect its function and which parts affect its form. • Analysing whether changes in configuration positively or negatively affect an existing product. • Peer evaluating a set of instructions to build a product.
Knowledge	Technical	• To know that series circuits only have one direction for the electricity to flow. • To know when there is a break in a series circuit, all components turn off. • To know that an electric motor converts electrical energy into rotational movement, causing the motor's axle to spin. • To know a motorised product is one which uses a motor to function.
	Additional	• To know that product analysis is critiquing the strengths and weaknesses of a product. • To know that 'configuration' means how the parts of a product are arranged.

Cooking and nutrition

		Year 1	Year 3
		Smoothies	Eating seasonally
Skills	Design	• Designing smoothie carton packaging by-hand. • Learning where and how fruits and vegetables grow.	• Describing how climate affects where foods grow.
	Make	• Chopping fruit and vegetables safely to make a smoothie. • Juicing fruits safely to make a smoothie. • Identifying if a food is a fruit.	• Identifying seasonal ingredients from the UK. • Following the instructions within a recipe. • Tasting seasonal ingredients. • Peeling foods by hand or with a peeler. • Cutting ingredients safely. • Choosing ingredients based on a design brief.
	Evaluate	• Tasting and evaluating different food combinations. • Describing appearance, smell and taste. • Suggesting information to be included on packaging. • Comparing their own smoothie with someone else's.	• Describing the texture and flavour of ingredients. • Describing the benefits of seasonal fruits and vegetables and the impact on the environment.
Knowledge		• To know that a blender is a machine which mixes ingredients together into a smooth liquid. • To know that a fruit has seeds and a vegetable does not. • To know that fruits grow on trees or vines. • To know that vegetables can grow either above or below ground. • To know that vegetables is any edible part of a plant.	• To know that seasonal means foods that grow in a given season in a given country. • To know some seasonal foods that grow in the UK and what season they grow in. • To know that eating seasonal foods can have a positive impact on the environment. • To know how to describe the flavour and texture of foods. • To know how to cut a peel safely. • To know that the appearance of food is as important as taste. • To know that similar coloured fruits and vegetables often have similar nutritional benefits.

		Year 5
		Developing a recipe
Skills	Design	• Researching existing recipes. • Suggesting alternative ingredients. • Designing a jar label.
	Make	• Writing an alternative recipe. • Understanding cross-contamination. • Using preparation skills. • Making a developed recipe.
	Evaluate	• Explaining the farm to fork process. • Analysing nutritional content.
Knowledge		• To know that beef comes from cows reared on farms. • To know that recipes can be adapted to suit nutritional needs and dietary requirements. • To know that nutritional information is found on food packaging. • To know that coloured chopping boards can prevent cross-contamination. • To know that food packaging serves many purposes.

		EYFS: Reception
		Bookmarks
Skills	Design	• Discussing what a good design needs. • Designing a simple pattern with paper. • Designing a bookmark. • Choosing from available materials.
	Make	• Developing fine motor/cutting skills with scissors. • Exploring fine motor/threading and weaving (under, over technique) with a variety of materials. • Using a prepared needle and wool to practise threading.
	Evaluate	• Reflecting on a finished product and comparing to their design.
Knowledge		• To know that a design is a way of planning our idea before we start. • To know that threading is putting one material through an object.

		Year 1	
		Option 1: Simple stitches	Option 2: Puppets
Skills	Design	• Stating what they intend to make and why - identifying the purpose. • Talking about ideas, with purpose and user in mind. • Using basic drawing skills to communicate ideas.	• Using a template to create a design for a puppet.
	Make	• Choosing between a small number of materials, ingredients or components. • Explaining their choices based on personal experiences. • Explaining in simple terms why certain tools must be handled carefully. • Following and recalling simple safety instructions. • Using a straightedge to draw a straight line. • Beginning to use objects with a fixed width or length to create even spacing of markings or cuts. (e.g. a lolly stick). • Using a large plastic needle and large-weave embroidery fabric to begin to create a running stitch. • Applying masking tape to fix something in place or join to edges. • Adding texture to create visual interest.	• Cutting fabric neatly with scissors. • Using joining methods to decorate a puppet. • Sequencing the steps taken during construction.
	Evaluate	• Saying what they like about their peers' designs and products. • Accepting feedback and understanding it is meant to improve their work.	• Reflecting on a finished product, explaining likes and dislikes.
	Technical	• Discussing fabric properties. • Threading large needles. • Rehearsing sewing techniques with large needles and thick thread, like wool. • Sewing a running stitch in large-weave embroidery fabric or hessian. • Creating patterns and following them with stitching. • Spacing stitches evenly.	
Knowledge		• To know drawings are a way to explain ideas. • To know that choosing different materials or components will affect what the product does or looks like. • To know the names of common pieces of equipment. • To know that following instructions helps with safety. • To know that spacing cuts or marks evenly can be useful. • To know that exture is how something feels. • To know their ideas or products can be made better. • To know their final product might be different to their original idea. • To know their ideas can make someone else's work better. • To know other people's ideas can help make their work better. • To know evenly spaced stitches help when following a pattern.	• To know that 'joining technique' means connecting two pieces of material together. • To know that there are various temporary methods of joining fabric by using staples. glue or pins. • To understand that different techniques for joining materials can be used for different purposes. • To understand that a template (or fabric pattern) is used to cut out the same shape multiple times. • To know that drawing a design idea is useful to see how an idea will look.

		Year 6	
		Option 1: Bags	Option 2: Waistcoats
Skills	Design	• Developing annotated sketches to communicate design ideas. • Creating pattern pieces to use in design.	• Designing a waistcoat in accordance to a specification linked to set of design criteria. • Annotating designs, to explain their decisions.
	Make	• Using a ruler to accurately measure and draw lines and marks. • Using nets to create 3D objects.	• Using a template when cutting fabric to ensure they achieve the correct shape. • Using pins effectively to secure a template to fabric without creases or bulges. • Marking and cutting fabric accurately, in accordance with their design. • Sewing a strong running stitch, making small, neat stitches and following the edge. • Tying strong knots. • Decorating a waistcoat, attaching features (such as appliqué) using thread. • Finishing the waistcoat with a secure fastening (such as buttons). • Learning different decorative stitches. • Sewing accurately with evenly spaced, neat stitches.
	Evaluate	• Reflecting on the functionality and aesthetics of products. • Discussing reasons for design choices.	• Reflecting on their work continually throughout the design, make and evaluate process.
	Technical	• Using pins effectively to secure a template to fabric without creases or bulges. • Threading needles independently. • Tying knots at the end of thread to secure it. • Selecting textiles and buttons to improve aesthetics and function. • Attaching objects like buttons using thread.	
Knowledge		• To know that nets can be folded to create 3D shapes. • To know that pattern pieces are like nets/templates. • To know how designers use pattern pieces when creating textiles products. • To know that products are sometimes made in parts that are sewn together. • To know that safety pins can hold fabric in place before sewing. • To know that there are different types of stitches. • To know what a running stitch is. • To know that aesthetics is how something looks. • To know that consistently sized stitches improve the aesthetic of a product. • To know that the shape of an object can affect both its aesthetics and function.	• To understand that it is important to design clothing with the client/ target customer in mind. • To know that using a template (or clothing pattern) helps to accurately mark out a design on fabric. • To understand the importance of consistently sized stitches.

Digital world (KS2 only)

		Year 3	Year 6
		Wearable technology	Navigating the world
Skills	Design	• Problem solving by suggesting which features on a micro:bit might be useful and justifying my ideas. • Drawing and manipulating 2D shapes, using computer-aided design, to produce a point of sale badge. • Developing design ideas through annotated sketches to create a product concept. • Developing design criteria to respond to a design brief.	• Writing a design brief from information submitted by a client • Developing design criteria to fulfil the client's request • Considering and suggesting additional functions for my navigation tool • Developing a product idea through annotated sketches • Placing and manoeuvring 3D objects, using CAD • Changing the properties of, or combine one or more 3D objects, using CAD
	Make	• Following a list of design requirements. • Writing a program to control (button press) and/or monitor (sense light) that will initiate a flashing LED algorithm.	• Considering materials and their functional properties, especially those that are sustainable and recyclable (for example, cork and bamboo) • Explaining material choices and why they were chosen as part of a product concept • Programming an N,E, S,W cardinal compass
	Evaluate	• Analysing and evaluating wearable technology. • Using feedback from peers to improve design.	• Explaining how my program fits the design criteria and how it would be useful as part of a navigation tool • Developing an awareness of sustainable design • Identifying key industries that utilise 3D CAD modelling and explain why • Describing how the product concept fits the client's request and how it will benefit the customers • Explaining the key functions in my program, including any additions • Explaining how my program fits the design criteria and how it would be useful as part of a navigation tool • Explaining the key functions and features of my navigation tool to the client as part of a product concept pitch • Demonstrating a functional program as part of a product concept
Knowledge	Technical	• To understand that, in programming, a 'loop' is code that repeats something again and again until stopped. • To know that a micro:bit is a pocket-sized, codeable computer. • To know that a simulator is able to replicate the functions of an existing piece of technology.	• To know that accelerometers can detect movement • To understand that sensors can be useful in products as they mean the product can function without human input
	Additional	•To know what the 'Digital Revolution' is and features of some of the products that have evolved as a result. • To understand what is meant by 'point of sale display.' • To know that CAD stands for 'Computer-aided design'. • To know what a focus group is by taking part in one.	• To know that designers write design briefs and develop design criteria to enable them to fulfil a client's request • To know that 'multifunctional' means an object or product has more than one function • To know that magnetometers are devices that measure the Earth's magnetic field to determine which direction you are facing

This page shows recent updates to this document.

Date	Update
25.04.24	Removed use of the word 'combined' on the plan and added a statement to explain that customers need to subscribe to **both** Art and design and Design *and* Technology subjects to have access to all the units referenced in this document.
21.08.24	Updated to reflect refreshed units published on the website.
18.10.24	Updated to reflect refreshed units published on the website.
06.03.25	Updated Cooking and nutrition statements to reflect those on the website.
30.04.25	A page added to explain the changes to the new Drawing units and further pages to show upcoming changes to this document which will come into effect August 2025 (p. 41-54).
22.05.25	Updated to reflect new content published on the website.
17.07.25	Updated to reflect new content published on the website.
06.08.25	Updated to reflect the newly published Drawing units.
28.08.25	Updated to reflect new content published on the website.
22.10.25	Updated to reflect new content published on the website.
01.12.25	Updated formal elements statements (p.13-16).
15.12.25	Updated to reflect new content published on the website; some option 2 units moved to the archive.
12.02.26	Updated to reflect new content published on the website.