Combined D&T and Art and design (original scheme)

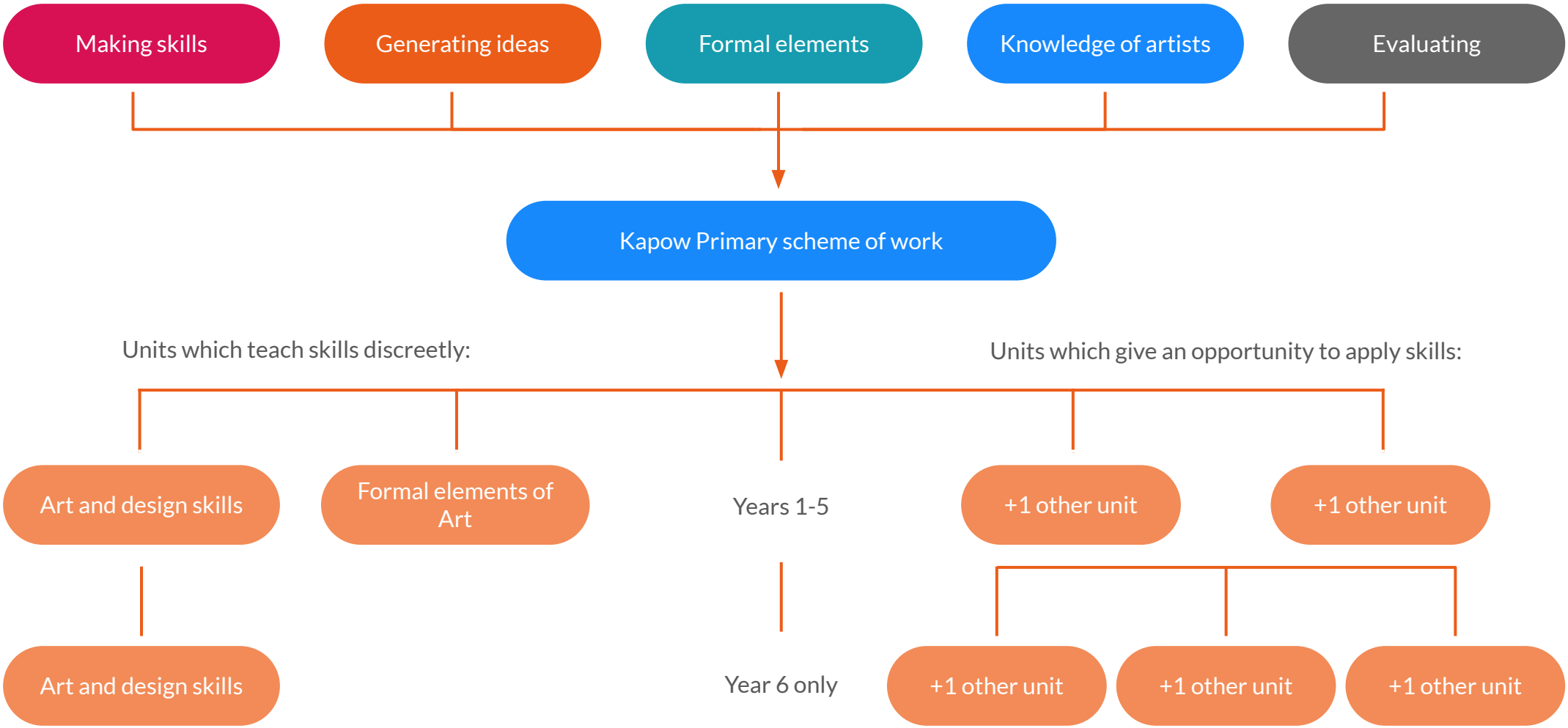
Progression of skills

An overview of the **skills** covered in each year group and strand and how these skills are developed through our Design and technology and original Art and design scheme of work.

This document was created on 28.09.22. Please check here for the most up-to date version.

Contents:

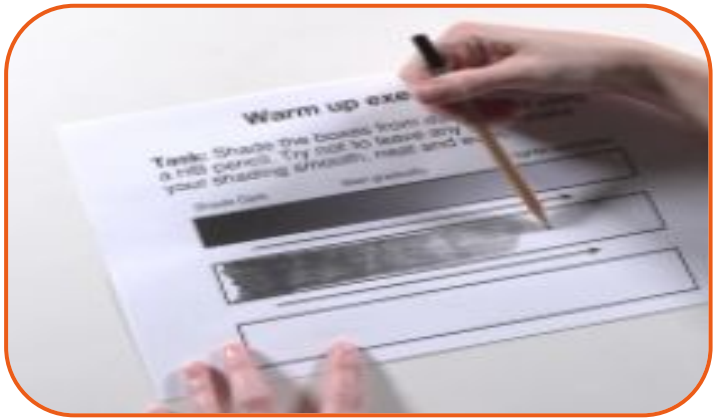
How is the Kapow Primary original Art and design scheme of work organised?



Why have we chosen to include these Art and design units?

For this combined plan, **we** have suggested retaining the three units per year group that give the best overall skills coverage when combined with the Design and technology units.

We have tried to ensure there is a balance between those lessons in which develop pupils' skills in a discrete way, for example those in the **Art and design skills** and **Formal elements of Art** units, and those units which offer pupils opportunities to apply their skills towards more creative outcomes.



Because our Art and design units are designed to take five lessons, we have also included some suggestions for stand alone lessons which you could use if you find that you have lessons 'to spare.' Please note that the skills from these stand alone lessons are **not** included in this progression of skills document.

Making skills

	Year 1	Year 2	Year 3
Drawing	Explore mark making, experiment with drawing lines and use 2D shapes to draw.	Explore drawing techniques, begin to apply tone to describe form, develop skill and control with a range of drawing materials.	Develop drawing skills by drawing from direct observation, applying and using geometry and tonal shading when drawing. Use a range of drawing media.
Painting	Develop skill and control when painting. Paint with expression.	Further improve skill and control when painting. Paint with creativity and expression.	Increase skill and control when painting. Apply greater expression and creativity to own paintings.
Craft, design, materials and techniques	Learn a range of materials and techniques such as clay, sketching, printing and collage.	Use a range of materials to design and make products including craft, weaving, printmaking, sculpture and clay.	Use materials such as paper weaving, tie dying, sewing and other craft skills to design and make products. *NB. This skill is not covered if you are following our condensed curriculum.*

	Year 4	Year 5	Year 6
Drawing	Draw still life from observation and for mark making. Further develop understanding of geometry and mathematical proportion when drawing.	Further develop drawing from observation. Draw using perspective, mathematical processes, design, detail and line.	Learn and apply new drawing techniques such as negative drawing, chiaroscuro, expression, sketching and still life.
Painting	Develop skill and control when painting. Paint with expression. Analyse painting by artists.	Control brush strokes and apply tints and shades when painting. Paint with greater skill and expression. *NB. This skill is not covered if you are following our condensed curriculum.*	Learn and apply new drawing techniques such as negative drawing, chiaroscuro, expression, sketching and still life.
Craft, design, materials and techniques	Make art from recycled materials, create sculptures, print and create using a range of materials. Learn how to display and present work.		Create photomontages, make repeat patterns using printing techniques, create digital art and 3D sculptural forms.

Generating ideas

	Year 1	Year 2	Year 3
Sketchbooks		Use sketchbooks more effectively through further teacher modelling. Use sketchbooks to record thoughts and ideas and to experiment with materials.	Use sketchbooks to generate ideas and record thoughts and observations. Make records of visual experiments.
Creating original artwork	Explore and create ideas for purposes and intentions.	Use artist sources to develop their own original artwork. Gaining inspiration for artwork from the natural world.	Create personal artwork using the artwork of others to stimulate them.

	Year 4	Year 5	Year 6
Sketchbooks	Use sketchbooks for planning and refining work, to record observations and ideas and developing skill and technique.	Develop ideas through sketches, enhance knowledge, skill and technique using experimental media in sketchbooks.	Make personal investigations and record observations in sketchbooks. Record experiments with media and try out new techniques and processes in sketchbook
Creating original artwork	Use literary sources to inspire art. Express thoughts and feelings through the tactile creation of art. Manipulate materials to achieve desired effects. Represent ideas from multiple perspectives.	Express thoughts and feelings about familiar products. Design new architectural forms, design and invent new products, link artwork to literary sources. Create and invent for purposes.	Develop personal, imaginative responses to a theme. Produce personal interpretations of cherished objects, show thoughts and feelings through pattern, create imaginative 3D forms to create meaning. Express ideas about art through messages, graphics, text and images.

	Year 1	Year 2	Year 3
Artists, craftspeople, designers	Beatriz Milhazes (Abstract) Bridget Riley (Drawing) David Hockney and Vija Celmins (Drawing) Louis Wain (Movement) Kandinsky, Bernal, Bolotowsky (Shape and Colour) Vincent Van Gogh (Texture) Jasper Johns (Painting) Renoir, Sorolla, Kroyer (Landscape)	Max Ernst (Frottage) Ed Ruscha (Shading, Tone) Clarice Cliff (Design) Nancy McCrosky (Mural)	Diego Velazquez (Tone) Prehistoric Artists

	Year 4	Year 5	Year 6
Artists, craftspeople, designers	Luz Perez Ojeda Paul Cezanne Giorgio Morandi David Hockney Paula Rego Edward Hopper Pieter Brueghel Fiona Ra Barbara Hepworth	Hundertwasser Banksy John Singer Sargent E Magdalene Odundo Dominic Wilcox Paul Klee Rorschach	Kathe Kollwitz Pablo Picasso Mark Wallinger

	Year 1	Year 2	Year 3
Identifying similarities and differences to others' work	Recognise and describe key features of their own and other's work.	Compare other's work, identifying similarities and differences.	Discuss own and other's work using an increasingly sophisticated use of art language (formal elements).
Reflecting	Describe what they feel about their work and the art of others.	Describe choices and preferences using the language of art.	Reflecting on their own work in order to make improvements.
	Year 4	**Year 5**	**Year 6**
Identifying similarities and differences to others' work	Build a more complex vocabulary when discussing your own and others' art.	Develop a greater understanding of vocabulary when discussing their own and others' work.	Use the language of art with greater sophistication when discussing own and others art.
Reflecting	Reflecting on their own work in order to make improvements.	Regularly analysing and reflecting on their intentions and choices.	Give reasoned evaluations of their own and others work which takes account of context and intention.

	Year 1	Year 2	Year 3
Colour	Remember the primary colours and how to mix them to create secondary colours. Create shades of a colour and choose and justify colours for purpose.	Mix, apply and refine colour mixing for purpose using wet and dry media. Describe their colour selections.	Increase awareness and understanding of mixing and applying colour, including use of natural pigments. Use aspects of colour such as tints and shades, for different purposes.
Form		Extend their practical ability to create 3D sculptural forms and begin to understand how to represent form when drawing.	Further develop their ability to describe 3D form in a range of materials, including drawing.
Line	Use, express and experiment with line for purpose, then use appropriate language to describe lines.	Draw lines with increased skill and confidence. Use line for expression when drawing portraits.	Express and describe organic and geometric forms through different types of line.
Pattern	Understand patterns in nature, design and make patterns in a range of materials.	Learn a range of techniques to make repeating and non-repeating patterns. Identify natural and man-made patterns. Create patterns of their own.	Construct a variety of patterns through craft methods. Further develop knowledge and understanding of pattern.

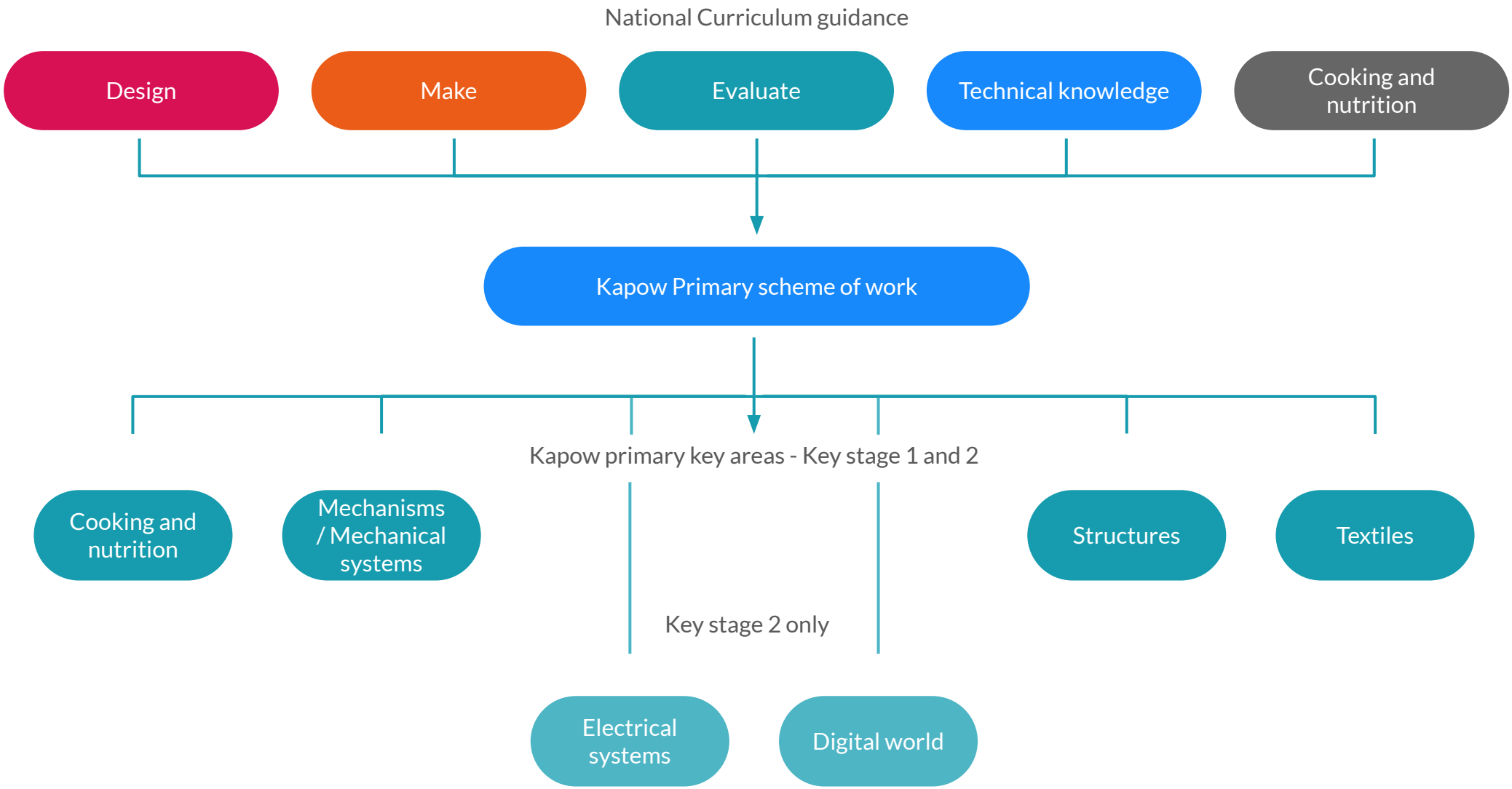
	Year 1	Year 2	Year 3
Shape	Identify, describe and use shape for purpose.	Compose geometric designs by adapting the work of other artists to suit their own ideas.	Identify, draw and label shapes within images and objects. Create and form shapes from 3D materials.
Texture	Use materials to create textures.	Identify and describe different textures. Select and use appropriate materials to create textures.	Analyse and describe texture within artists' work.
Tone	Understand what tone is and how to apply this to their own work.	Experiment with pencils to create tone. Use tone to create form when drawing.	Develop skill and control when using tone. Learn and use simple shading rules.

Formal elements

	Year 4	Year 5	Year 6
Shape	Create geometric compositions using mathematical shapes. Analyse and describe the use of shape in artist's work.	Composing original designs by adapting and synthesising the work of others. Analyse and evaluate artists' use of shape.	Fluently sketch key shapes of objects when drawing. Create abstract compositions using knowledge of other artists' work.
Texture	Analyse and describe texture within artists' work.	Using texture within drawings to show careful observation and understanding of illustrating different surfaces.	Explore art through a range of different textural mediums.
Tone	Use a variety of tones to create different effects. Understand tone in more depth to create 3D effects. Analyse and describe use of tone in artists' work.	Develop an increasing sophistication when using tone to describe objects when drawing. Analyse artists' use of tone.	Increase awareness of using tone to describe light and shade, contrast, highlight and shadow. Manipulate tone for halo and chiaroscuro techniques.

	Year 4	Year 5	Year 6
Colour	Analyse and describe colour and painting techniques in artists work. Manipulate colour for print.	Select and mix more complex colours to depict thoughts and feelings.	Mix and apply colours to represent still life objects from observation. Express feelings and emotions through colour. Study colours used by Impressionist painters.
Form	Develop their ability to describe and model form in 3D using a range of materials. Analyse and describe how artists use and apply form in their work.	Further extend their ability to describe and model form in 3D using a range of materials.	Express and articulate a personal message through sculpture. Analyse and study artists' use of form.
Line	Learn and apply symmetry to draw accurate shapes. Analyse and describe how artists use line in their work.	Extend and develop a greater understanding of applying expression when using line.	Deepen knowledge and understanding of using line when drawing portraits. Develop greater skill and control. Study and apply the techniques of other artists.
Pattern	Create original designs for patterns using geometric repeating shapes. Analyse and describe how other artists use pattern.	Construct patterns through various methods to develop their understanding.	

How is the Design and technology scheme of work organised?



Why have we chosen to include these Design and technology units?

For Design and technology, we had to make some difficult decisions about which units to include and which to omit. We have carefully selected units to ensure gradual progression towards the National curriculum end of key stage attainment targets and to cover all of the five strands shown below in enough detail.

Design | **Make** | **Evaluate** | **Technical knowledge** | **Cooking and nutrition**

Some key areas appear less frequently than others, for example Textiles, and this is deliberate. The National curriculum statements below show that working with textiles is only a small element of the Make strand and many of the making techniques covered in our Textiles units are also covered with a range of materials in other units, such as the use of templates, modelling, measuring and marking out, cutting, shaping and joining.

Make (KS1)	Make (KS2)
select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] **select from and use a wide range of materials** and components, including construction materials, textiles and ingredients, according to their characteristics	select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately **select from and use a wider range of materials** and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities

Similarly in Year 2, the coverage of key areas is deliberately imbalanced as there are two Mechanisms units. This is because there is strong progression between the Y1 Structures: Constructing a windmill and the Y2 Mechanisms: Fairground wheel and then again with the Y2 Mechanisms: Making a moving monster. To omit one of these units would negatively impact on the progression.

Because our Design and technology units are designed to take four lessons, we have also included some suggestions for stand alone lessons which you could use if you find that you have lessons 'to spare.' Please note that the skills and knowledge from these stand alone lessons is **not** included in this progression of skills and knowledge.

		Year 1	Year 2
		Constructing a windmill	Baby bear's chair
Skills	Design	• Learning the importance of a clear design criteria. • Including individual preferences and requirements in a 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 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.	• 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	• 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.	• 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 understand that the shape of materials can be changed to improve the strength and stiffness of structures. • To understand that cylinders are a strong type of structure (e.g. the main shape used for windmills and lighthouses). • To understand that axles are used in structures and mechanisms to make parts turn in a circle. • To begin to understand that different structures are used for different purposes. • To know that a structure is something that has been made and put together.	• To 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 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.	• To know that natural structures are those found in nature. • To know that man-made structures are those made by people.

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		Year 6
		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.

Mechanisms / mechanical systems

		Year 2		Year 4
		Fairground wheel	Making a moving monster	Making a slingshot car
Skills	Design	• Selecting a suitable linkage system to produce the desired motion. • Designing a wheel.	• Creating a class design criteria for a moving monster. • Designing a moving monster for a specific audience in accordance with a design criteria.	• Designing a shape that reduces air resistance. • Drawing a net to create a structure from. • Choosing shapes that increase or decrease speed as a result of air resistance. • Personalising a design.
	Make	• Selecting materials according to their characteristics. • Following a design brief.	• 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.	• Measuring, marking, cutting and assembling with increasing accuracy. • Making a model based on a chosen design.
	Evaluate	• Evaluating different designs. • Testing and adapting a design.	• Evaluating own designs against design criteria. • Using peer feedback to modify a final design.	• Evaluating the speed of a final product based on: the effect of shape on speed and the accuracy of workmanship on performance.
Knowledge	Technical	• To know that different materials have different properties and are therefore suitable for different uses.	• 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.	• To understand that all moving things have kinetic energy. • To understand that kinetic energy is the energy that something (object/person) has by being in motion. • To know that air resistance is the level of drag on an object as it is forced through the air. • To understand that the shape of a moving object will affect how it moves due to air resistance.
	Additional	• To know the features of a ferris wheel include the wheel, frame, pods, a base an axle and an axle holder. • To know that it is important to test my design as I go along so that I can solve any problems that may occur.	• To know some real-life objects that contain mechanisms.	• To understand that products change and evolve over time. • To know that aesthetics means how an object or product looks in design and technology. • To know that a template is a stencil you can use to help you draw the same shape accurately. • To know that a birds-eye view means a view from a high angle (as if a bird in flight). • To know that graphics are images which are designed to explain or advertise something. •To know that it is important to assess and evaluate design ideas and models against a list of design criteria.

		Year 5
		Pop up book
Skills	Design	• Designing a pop-up book which uses a mixture of structures and mechanisms. • Naming each mechanism, input and output accurately. • Storyboarding ideas for a book.
	Make	• Following a design brief to make a pop up book, neatly and with focus on accuracy. • Making mechanisms and/or structures using sliders, pivots and folds to produce movement. • Using layers and spacers to hide the workings of mechanical parts for an aesthetically pleasing result.
	Evaluate	• Evaluating the work of others and receiving feedback on own work. • Suggesting points for improvement.
Knowledge	Technical	• To know that mechanisms control movement. • To understand that mechanisms can be used to change one kind of motion into another. • To understand how to use sliders, pivots and folds to create paper-based mechanisms.
	Additional	• To know that a design brief is a description of what I am going to design and make. • To know that designers often want to hide mechanisms to make a product more aesthetically pleasing.

		Year 1	Year 3
		Fruit and vegetables	Eating seasonally
Skills	Design	• Designing smoothie carton packaging by-hand or on ICT software.	• Creating a healthy and nutritious recipe for a savoury tart using seasonal ingredients, considering the taste, texture, smell and appearance of the dish.
	Make	• Chopping fruit and vegetables safely to make a smoothie. • Identifying if a food is a fruit or a vegetable. • Learning where and how fruits and vegetables grow.	• Knowing how to prepare themselves and a work space to cook safely in, learning the basic rules to avoid food contamination. • Following the instructions within a recipe.
	Evaluate	• Tasting and evaluating different food combinations. • Describing appearance, smell and taste. • Suggesting information to be included on packaging.	• Establishing and using design criteria to help test and review dishes. • Describing the benefits of seasonal fruits and vegetables and the impact on the environment. • Suggesting points for improvement when making a seasonal tart.
Knowledge	Cooking and nutrition	• Understanding the difference between fruits and vegetables. • To understand that some foods typically known as vegetables are actually fruits (e.g. cucumber). • 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 can come from different parts of the plant (e.g. roots: potatoes, leaves: lettuce, fruit: cucumber).	• To know that not all fruits and vegetables can be grown in the UK. • To know that climate affects food growth. • To know that vegetables and fruit grow in certain seasons. • To know that cooking instructions are known as a 'recipe'. • To know that imported food is food which has been brought into the country. • To know that exported food is food which has been sent to another country.. • To understand that imported foods travel from far away and this can negatively impact the environment. • To know that each fruit and vegetable gives us nutritional benefits because they contain vitamins, minerals and fibre. • To understand that vitamins, minerals and fibre are important for energy, growth and maintaining health. • To know safety rules for using, storing and cleaning a knife safely. • To know that similar coloured fruits and vegetables often have similar nutritional benefits.

		Year 5
		What could be healthier?
Skills	Design	• Adapting a traditional recipe, understanding that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients. • Writing an amended method for a recipe to incorporate the relevant changes to ingredients. • Designing appealing packaging to reflect a recipe.
	Make	• Cutting and preparing vegetables safely. • Using equipment safely, including knives, hot pans and hobs. • Knowing how to avoid cross-contamination. • Following a step by step method carefully to make a recipe.
	Evaluate	• Identifying the nutritional differences between different products and recipes. • Identifying and describing healthy benefits of food groups.
Knowledge	Cooking and nutrition	• To understand where meat comes from - learning that beef is from cattle and how beef is reared and processed, including key welfare issues. • To know that I can adapt a recipe to make it healthier by substituting ingredients. • To know that I can use a nutritional calculator to see how healthy a food option is. • To understand that 'cross-contamination' means bacteria and germs have been passed onto ready-to-eat foods and it happens when these foods mix with raw meat or unclean objects.

		Year 1	Year 6
		Puppets	Waistcoats
Skills	Design	• Using a template to create a design for a puppet.	• Designing a waistcoat in accordance to a specification linked to set of design criteria. • Annotating designs, to explain their decisions.
	Make	• Cutting fabric neatly with scissors. • Using joining methods to decorate a puppet. • Sequencing the steps taken during construction.	• 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 a finished product, explaining likes and dislikes.	• Reflecting on their work continually throughout the design, make and evaluate process.
Knowledge		• 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.	• 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
		Electronic charm	Navigating the world
Skills	Design	• Problem solving by suggesting potential features on a Micro: bit and justifying my ideas. • Developing design ideas for a technology pouch. • Drawing and manipulating 2D shapes, using computer-aided design, to produce a point of sale badge.	• 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 combining one or more 3D objects, using CAD.
	Make	• Using a template when cutting and assembling the pouch. • Following a list of design requirements. • Selecting and using the appropriate tools and equipment for cutting, joining, shaping and decorating a foam pouch. • Applying functional features such as using foam to create soft buttons. • 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 an existing product. • Identifying the key features of a pouch.	• 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 explaining 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 pitch.
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 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 know that in Design and technology the term 'smart' means a programmed product. •To know the difference between analogue and digital technologies. • To understand what is meant by 'point of sale display.' • To know that CAD stands for 'Computer-aided design'.	• 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.

Electrical systems (KS2 only)

		Year 4	Year 5
		Torches	Doodlers New!
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.	• 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	• 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.	• 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	• Evaluating electrical products. • Testing and evaluating the success of a final product.	• 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 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.	• 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 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.	• 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.