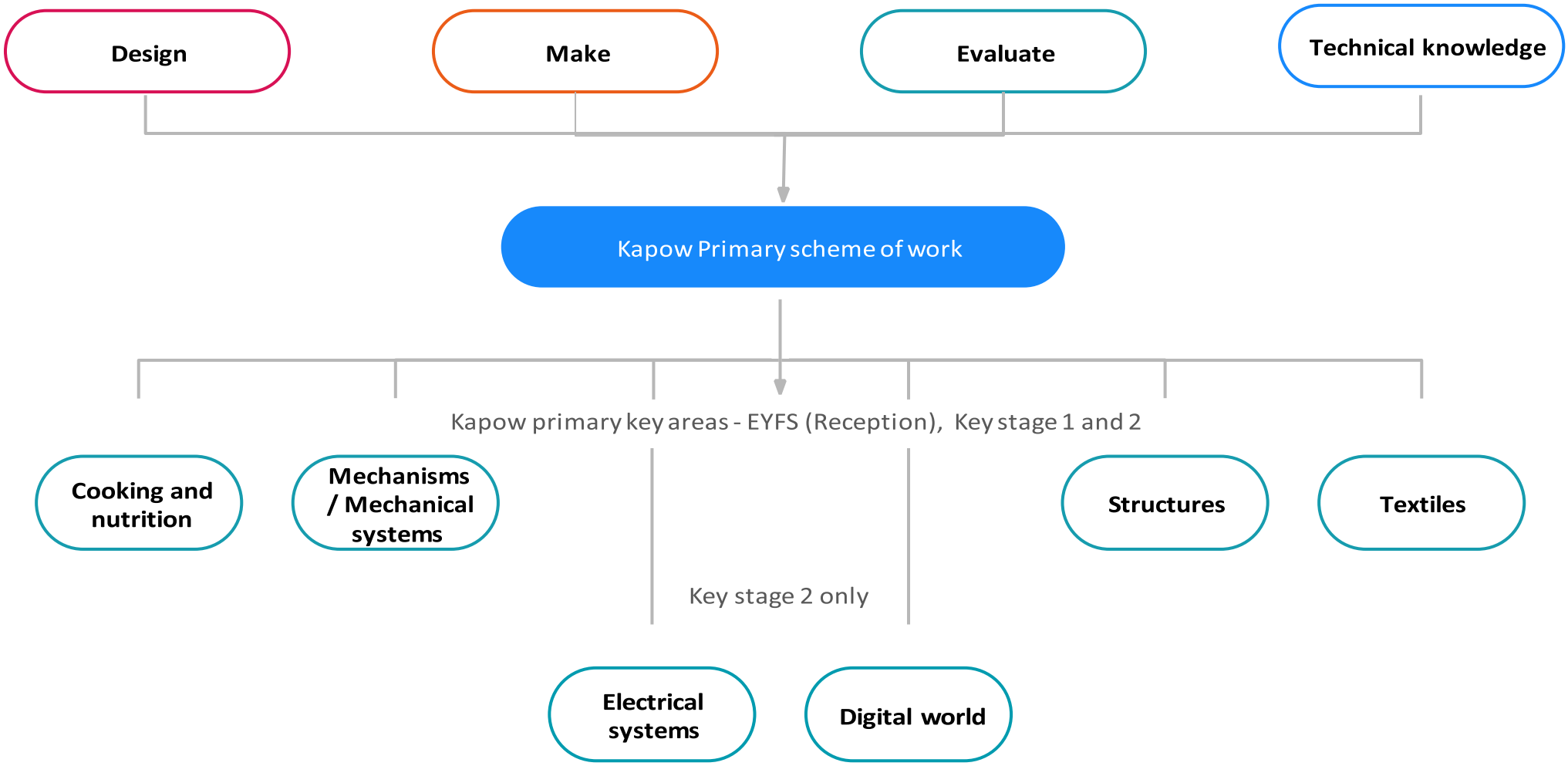
Park Road Academy Primary School

Design and Technology Curriculum Progression

EYFS - Year 6

How is the Design and technology scheme of work organised?

An overview of the skills and knowledge covered in each year group and strand and how these are developed through our Design and technology scheme of work, based on Kapow Primary's Design and Technology scheme.



Within the EYFS, children are provided with a wealth of opportunities and experiences which may include elements of Design and Technology across the year. All themes are subject to change and adaptation depending on the needs and interests of the children. The table below demonstrates which statements from the 2020 Development Matters are prerequisite skills for Design and Technology within the national curriculum. The table outlines the most relevant statements taken from the Early Learning Goals in the EYFS statutory framework and the Development Matters age ranges for Three and Four Year-Olds and Reception to match the programme of study used at Park Road Academy Primary School for Design and Technology.

DT		
Three and Four-Year-Olds	Personal, Social and Emotional Development	• Select and use activities and resources, with help when needed. This helps them to achieve a goal they have chosen or one which is suggested to them.
	Physical Development	• Use large-muscle movements to wave flags and streamers, paint and make marks. • Choose the right resources to carry out their own plan. • Use one-handed tools and equipment, for example, making snips in paper with scissors.
	Understanding the World	• Explore how things work.

	Expressive Arts and Design	• Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park. • Explore different materials freely, in order to develop their ideas about how to use them and what to make. • Develop their own ideas and then decide which materials to use to express them. • Create closed shapes with continuous lines, and begin to use these shapes to represent objects.
Reception	Physical Development	• Progress towards a more fluent style of moving, with developing control and grace. • Develop their small motor skills so that they can use a range of tools competently, safely and confidently. • Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor.
	Expressive Arts and Design	• Explore, use and refine a variety of artistic effects to express their ideas and feelings. • Return to and build on their previous learning, refining ideas and developing their ability to represent them.

	• Create collaboratively, sharing ideas, resources and skills.

Nursery Design and Technology Long Term Overview

	What makes me special?	What do I celebrate?	Can you tell me a tale?	What do you see on the Farm?	Who are our helping heroes?	Where shall we travel to?
Nursery*	**PD:** PE Passport • Dancing / Stability • (Gross Motor) • Pulling self-up on climbing equipment/using alternate feet. • Throwing and catching large balls. • Practise cutting using a knife and a fork – can you cut the spaghetti? • Moulding materials - playdough owls? • Gross Motor Mark Making - Streamers – elephants have wrinkles. • Importance of hand washing/ personal hygiene – can you wash the babies? Why do they need to be clean?	**PD:** PE Passport • Locomotion / Yoga • (Gross Motor) • Pulling self-up on climbing equipment/using alternate feet • Throwing and catching large balls. • Snipping and cutting – can you cut and stick your own celebrate hat? • Gross motor mark making – large mark making, colour mixing, streamers, fireworks in the sky. • Importance of hand washing/ personal hygiene. • Oral Hygiene • Making healthy food choices.	**PD:** PE Passport • Fine Motor skills • (Fine Motor) • I can build, balance and make spaces. • Can you build a house for the three little pigs using the different materials? • I can build and balance with others. • I can mark make – developing a comfortable grip. • Using scissors to cut along lines. • Importance of hand washing/ personal hygiene. • Oral Hygiene • Making healthy food choices. • Keep myself safe when using equipment. • Begin to be independent when putting on my own coat / shoes. **EAD:**	**PD:** PE Passport • Target Games / Dance – circus • (Gross Motor) • I can move my body – Hop, skip, jumps • Throwing different sized balls. • I can throw and catch with a friend. • Healthy and 'once in a while' food choices. • I can hold my mark making tools with a comfortable grip and developing control. • Using scissors to cut along lines. • Importance of hand washing/ personal hygiene. • Oral Hygiene • Making healthy food choices. • I can cut with a knife safely - Can you cut up your	**PD:** PE Passport • Gymnastics High and Low / Dance – Toys • (Gross Motor) • I can move my body – Hop, skip, jumps, rolls • Working with friends to build and balance. • Let's build an emergency vehicle together with the large blocks. • I can hold my mark making tools with a comfortable grip and developing control. Using scissors to cut around shapes. • Importance of hand washing/ personal hygiene. • Oral Hygiene • Making healthy food choices. • Keep myself safe when using equipment • Grow in independence when putting on my own coat / shoes.	**PD:** PE Passport • Gymnastics / Dance – Seasons • (Gross Motor) • I can control my body – balancing on one leg. • I can pull myself up on climbing equipment with control/using alternate feet. • Working with friends to build and balance. • Let's build a boat using the large blocks. • I can hold my mark making tools with a comfortable grip and developing control. - Using scissors to cut around shapes. • Importance of hand washing/ personal hygiene. • Oral Hygiene • Making healthy food choices. • Keep myself safe when using equipment • Grow in independence when putting on my own coat / shoes.

• Oral Hygiene • Making healthy food choices. • Keep myself safe when using equipment **EAD:** • Who lives in my home? I can make my home (small world) • What do I look like? - Self-portraits. • I can talk about a colour • Nursery Rhymes – learning new songs. • I can listen to a beat and begin to copy it. • Role play – Home Life. • Listen to the music – talk time / circle time • Pitch Match • Little Wandle Foundation phonics • How does it feel? – Fine motor exploration trays.	• Keep myself safe when using equipment • Begin to be independent when putting on my own coat / shoes. **EAD:** • Bonfire Night / fireworks – How do they make you feel? Splatter paintings. • What colours do you see? Can you make them? – colour mixing. • What is a decoration? - celebration decorations • Home Role play- party time • Learning new songs and rhymes - Christmas Songs/ Christmas show • Let's have a celebration (small world) • Listen to the music – talk time / circle time • Pitch Match • Little Wandle Foundation phonics • How does it feel? – Fine motor exploration trays.	• I can tell a tale (small world) • I can tell a tale. • Role play/Investigation area Items from Tales added. • I can move to music, how does it make me feel? • Music and movement • What materials shall I use? Building homes for Three pigs. • Making a mask of our favourite characters? • Listen to the music – talk time / circle time • Pitch Match • Little Wandle Foundation phonics. • How does it feel? • Fine motor exploration trays.	veg to make a soup? **EAD:** • Role play /investigation area – On the farm. • What materials will I need? • Clay pots for a bean plant. • Creating animals on the farm. • What will I see on the farm? • Story recall drawing. • I can build and talk. • Farm creations (small world) • Listen to the music – talk time / circle time - Pitch Match • Little Wandle Foundation phonics • How does it feel? – Fine motor exploration trays.	**EAD:** • What materials do I need? Create Emergency vehicles. • How can I make a colour? Uses colours for a purpose – • Why are they those colours? • Small world Create Tray – emergency services / who helps you? • I can talk about what I have heard. Talk time / circle time • Pitch Match • I can make sounds with instruments. Siren beat. • Little Wandle Foundation phonics • How does it feel? – Fine motor exploration trays.	**EAD:** • Can we make something to travel around the world? Building (large and small construction) pirate ship/car/aeroplane/train. • Where shall we go? (small world) • Look and Draw – draw what you see. Scenes from under the sea/around the world. • I can choose my materials. • I can talk about what I have heard – Talk time / circle time. • Pitch Match • Talking like a pirate. • Let's learn a sea shanty. • Let's create our own sea shanties. • Who will we be? • Role play investigation – let's be an explorer. What will we explore in?

Reception Design and Technology Long Term Overview

	Who am I? Who lives around me?	Where will my imagination take me?	What happens in our world?	Do I want to be a knight? How did people from the past get around?	Where do animals live? Are Minibeasts like me? How does your garden grow?	Do I want to be a pirate?
Reception*	**PD:** • Develop the skills needed to get through the school day e.g. lining up • Oral Hygiene and losing my first teeth. • Knowing what is good for me: sleep, balanced diet. • Revise and use fundamental movement skills PE Passport • Yoga • Fine Motor Skills • Locomotion 2 **EAD:** • Explore the use of colour and design • Creative show time: talk about designs/share ideas Throughout the year: • Perform songs/rhymes • Pitch Matching and following the melody • Children will be encouraged to return and build on previous learning • Children to be immersed in	**PD:** • Use core muscle strength to achieve good posture (start to develop handwriting posture) PE Passport • Fine motor skills • Object Manipulation 1 **EAD:** • Make use of props and materials in the role play area to re-create well known stories • Perform songs and stories • Pitch Matching and following the melody • Children will create collaboratively – Christmas Performance	**PD:** • Negotiate space and obstacles safely • Use a range of tools effectively • Begin to make more fluent movements in skills they have already acquired e.g. rolling, skipping, jumping etc. PE Passport • Fundamental Movement and Skills • Net and Wall Games Skill 1 **EAD:** • Explore the use of tools, materials and techniques.	**PD:** • Demonstrate strength, balance and co-ordination and experiment and use different ways of moving- bikes/ scooters etc. PE Passport • Stability 2 **EAD:** • Invent and adapt stories through their role play and small world play • Create and adapt designs	**PD:** • Demonstrate different ways of moving • Confidently and safely use small and large apparatus independently and in small groups PE Passport- • Gymnastics • Striking and Fielding Games Skill 1 • Athletics • Invasion Games Skills 1 **EAD:** • Perform poems • Explore the use of tools, textures, colour, form/function and share designs etc. • Children will create collaboratively – Class Assembly	**PD:** • Use a range of small tools effectively • Develop a fast, accurate and efficient handwriting style. PE Passport – • Dance • Target Games 1 **EAD:** • Invent and adapt stories through their role play and small world play • Confidently, safely and independently explore colour, texture, form and function. • Creative Showtime: Talking about the process they have used.

music, listening, responding, expressing their feelings and moving. • Explore the use of tools, textures, colour, form/function and share designs etc.					

		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.

Skills

	Year 3	Year 4
	Constructing a castle	**Pavilions**
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.	• 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	• Constructing a range of 3D geometric shapes using nets. • Creating special features for individual designs. • Making facades from a range of recycled materials.	• 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 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.	• 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	• To understand that wide and flat based objects are more stable. • To understand the importance of strength and stiffness in structures.	• 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 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.	• 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 2 Fairground wheel
Skills	Design	• Selecting a suitable linkage system to produce the desired motion. • Designing a wheel.
	Make	• Selecting materials according to their characteristics. • Following a design brief.
	Evaluate	• Evaluating different designs. • Testing and adapting a design.
Knowledge	Technical	• To know that different materials have different properties and are therefore suitable for different uses.
	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.

Year 4

Making a slingshot car

Skills	Design	• 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	• Measuring, marking, cutting and assembling with increasing accuracy. • Making a model based on a chosen design.
	Evaluate	• 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 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 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 5

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.

		Year 1	Year 2
		Fruit and vegetables	**A balanced diet**
Skills	Design	• Designing smoothie carton packaging by-hand or on ICT software.	• Designing a healthy wrap based on a food combination which work well together.
	Make	• Chopping fruit and vegetables safely to make a smoothie.	• Slicing food safely using the bridge or claw grip. • Constructing a wrap that meets a design brief.
	Evaluate	• Tasting and evaluating different food combinations. • Describing appearance, smell and taste. • Suggesting information to be included on packaging.	• Describing the taste, texture and smell of fruit and vegetables. • Taste testing food combinations and final products. • Describing the information that should be included on a label. • Evaluating which grip was most effective.

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 'diet' means the food and drink that a person or animal usually eats. • To understand what makes a balanced diet. • To know where to find the nutritional information on packaging. • To know that the five main food groups are: Carbohydrates, fruits and vegetables, protein, dairy and foods high in fat and sugar. • To understand that I should eat a range of different foods from each food group, and roughly how much of each food group. • To know that nutrients are substances in food that all living things need to make energy, grow and develop. • To know that 'ingredients' means the items in a mixture or recipe. • To know that I should only have a maximum of five teaspoons of sugar a day to stay healthy. • To know that many food and drinks we do not expect to contain sugar do; we call these 'hidden sugars'.

		Year 3	Year 4
		Eating seasonally	**Adapting a recipe**
Skills	**Design**	• Creating a healthy and nutritious recipe for a savoury tart using seasonal ingredients, considering the taste, texture, smell and appearance of the dish.	• Designing a biscuit within a given budget, drawing upon previous taste testing judgements.
	Make	• 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.	• Following a baking recipe, from start to finish, including the preparation of ingredients. • Cooking safely, following basic hygiene rules. • Adapting a recipe to improve it or change it to meet new criteria (e.g. from savoury to sweet).

	Evaluate	• 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.	• Evaluating a recipe, considering: taste, smell, texture and appearance. • Describing the impact of the budget on the selection of ingredients. • Evaluating and comparing a range of food products. • Suggesting modifications to a recipe (e.g. This biscuit has too many raisins, and it is falling apart, so next time I will use less raisins).
Knowledge **Cooking and nutrition**		• 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.	• To know that the amount of an ingredient in a recipe is known as the 'quantity.'• To know that it is important to use oven gloves when removing hot food from an oven. • To know the following cooking techniques: sieving, creaming, rubbing method, cooling. •To understand the importance of budgeting while planning ingredients for biscuits.

		Year 5	Year 6
		What could be healthier?	Come dine with me
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.	• Writing a recipe, explaining the key steps, method and ingredients. • Including facts and drawings from research undertaken.
	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.	• Following a recipe, including using the correct quantities of each ingredient. • Adapting a recipe based on research. • Working to a given timescale. • Working safely and hygienically with independence.
	Evaluate	• Identifying the nutritional differences between different products and recipes. • Identifying and describing healthy benefits of food groups.	• Evaluating a recipe, considering: taste, smell, texture and origin of the food group. • Taste testing and scoring final products. • Suggesting and writing up points of improvements when scoring others' dishes, and when evaluating their own throughout the planning, preparation and cooking process. • Evaluating health and safety in production to minimise cross contamination.
Knowledge		• 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.	• To know that 'flavour' is how a food or drink tastes. • To know that many countries have 'national dishes' which are recipes associated with that country. • To know that 'processed food' means food that has been put through multiple changes in a factory. • To understand that it is important to wash fruit and vegetables before eating to remove any dirt and insecticides. • To understand what happens to a certain food before it appears on the supermarket shelf (Farm to Fork).

Year 1

Puppets

Skills	Design	• Using a template to create a design for a puppet.
	Make	• Cutting fabric neatly with scissors. • Using joining methods to decorate a puppet. • Sequencing steps for construction.
	Evaluate	• Reflecting on a finished product, explaining likes and dislikes.
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.

Year 6

Waistcoats

Skills	Design	• Designing a waistcoat in accordance to a specification linked to set of design criteria. • Annotating designs, to explain their decisions.
	Make	• 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 their work continually throughout the design, make and evaluate process.
Knowledge		• 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.

Year 3

Electronic charm

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.
	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.
	Evaluate	• Analysing and evaluating an existing product. • Identifying the key features of a pouch.
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.
	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'.

		Year 6 Navigating the world
Skills	Design	• 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	• 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	• 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 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 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.