Progression of Skills & knowledge

Structures

EYFS	
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 2

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.
- Generating and communicating ideas using sketching and modelling.
- Learning about different types of structures, found in the natural world and in everyday objects.

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.
- Making a structures according to 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.
- 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 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. • To know that natural structures are those found in nature. • To know that man-made structures are those made by people.

Year 5	
Skills Design • Designing a stable structure that is able to support weight. • Creating a frame structure with a focus on triangulation. Make • Making a range of different shaped beam bridges. • Using triangles to create truss bridges that span a given distance and support a load. • Building a wooden bridge structure. • Independently measuring and marking wood accurately. • Selecting appropriate tools and equipment for particular tasks. • Using the correct techniques to saws safely. • Identifying where a structure needs reinforcement and using card corners for support. • Explaining why selecting appropriating materials is an important part of the design process. • Understanding basic wood functional properties. Evaluate • Adapting and improving own bridge structure by identifying points of weakness and reinforcing them as necessary. • Suggesting points for improvements for own bridges and those designed by others.	Knowledge Technical • To understand some different ways to reinforce structures. • To understand how triangles can be used to reinforce bridges. • To know that properties are words that describe the form and function of materials. • To understand why material selection is important based on properties. • To understand the material (functional and aesthetic) properties of wood. Additional • To understand the difference between arch, beam, truss and suspension bridges. • To understand how to carry and use a saw safely.

Year 6

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.
- 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

- 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.
- 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

Knowledge Technical

- To know that structures can be strengthened by manipulating materials and shapes.
- Understanding how to reinforce structures to make them more stable.
- Using triangulation to strengthen or stabilise a structure.
- To 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 understand what a 'footprint plan' is.
- To understand that in the real world, design , can impact users in positive and negative ways.

design. • Considering when best to apply finishing effects. 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. • 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.	• To know that a prototype is a cheap model to test a design idea. • 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.

Progression of Skills & knowledge

Mechanisms / mechanical systems

Year 1	
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 – by identifying the user. • Stating what they intend to make and why – by identifying the purpose • Talking about ideas with purpose and user in mind. • Talking about existing products when generating ideas. • Creating mock-ups to communicate designs. • Explaining how to adapt mechanisms, using bridges or guides to control the movement. • Designing a moving story book for a given audience. • 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 - by identifying the user. • Stating what they intend to make and why - by 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. • Designing a vehicle that includes wheels, axles and axle holders, that when combined, will allow the wheels to move. • Creating clearly labelled drawings that illustrate movement.	Knowledge Technical • Recognising and exploring everyday objects that have mechanisms. • Recognising everyday objects that use a slider mechanism (e.g. drawers, sliding doors, paper trimmer). • To know that a mechanism is the parts of an object that move together. • To know that a slider mechanism moves an object from side to side. • To know that a slider mechanism has a slider, slots , guides and an object. • To know that bridges and guides are bits of card that purposefully restrict the movement of the slider. • Recognising and exploring everyday objects that have mechanisms. • Many things that move have parts inside to help them work. • Mechanisms usually limit unwanted movement. • An axle allows the wheel to turn without falling off. • To know that wheels need to be round to rotate and move. • To understand that for a wheel to move, it must be attached to a rotating axle. • To know that an axle moves within an axle holder which is fixed to the vehicle or toy. • To know that the frame of a vehicle (chassis) needs to be balanced. 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 designers usually design and make something to solve a

Make • Planning more than one step ahead. • 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). • Explaining in simple terms why certain tools must be handled carefully. • Following and recalling simple safety instructions. • 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. • Puncturing holes • Applying masking tape to fix something in place or join to edges. • Using tools, like scissors, to create shapes. • Beginning to cut large shapes and thicker materials like card. • Following a design to create moving models that use levers and sliders. • Planning more than one step ahead. • 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 and glue for joining). • Explaining in simple terms why certain tools must be handled carefully. • Following and recalling simple safety instructions. • Finding the middle of an object.	problem. • 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 a mock-up is a model of how something works. • To know that choosing different materials or components will have an effect on what their product does or looks like. • To know that different equipment does different things. • To know the names of common pieces of equipment. • To know that some tools are sharp like scissors and knives. • To know that following instructions helps with safety. • To know that cutting in a straight line can be helpful when making. • To know that some products will be better than others. • To know that their ideas or products can be made better. • To know that many things that move have parts inside to help them work. • To know that mechanisms usually limit unwanted movement. • To know that a slider mechanism moves an object in a straight line (e.g. left/right, up/down). • To know that sliding mechanisms are designed to keep movement in one direction (e.g. using guides/rails etc). • To know that in Design and technology we call a plan a ‘design’. • 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 designers usually design and make something to solve a problem. • 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.

• 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. • Puncturing holes. • Recognising the edges of paper and card need to be stuck firmly using a glue stick. • Using tools, like scissors, to create shapes. • Beginning to cut large shapes and thicker materials like card. • Beginning to use controlled painting or colouring techniques to finish a product. • Adding texture to create visual interest. • Adapting mechanisms: - when they do not work as they should; - to fit their vehicle design; -to improve how they work after testing their vehicle. Evaluate • Discussing existing products, saying what they like about them. • Discussing how their products could be improved based on personal preferences. • Saying what they like about their peers' designs and products. • Accepting feedback and understanding it is meant to improve their work. • Testing a finished product, seeing whether it moves as planned and if not, explaining why and how it can be fixed. • Reviewing the success of a product by testing it with its intended audience. • Discussing existing products, saying what they like about them. • Comparing two products and discussing which is better for a specific purpose. • Discussing how their products could be improved based on personal preferences. • Comparing their finished products with their original designs.	• 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 choosing different materials or components will have an effect on what their product does or looks like. • To know that different equipment does different things. • To know the names of common pieces of equipment. • To know that some tools are sharp like scissors and knives. • To know that following instructions helps with safety. • To know that cutting in a straight line can be helpful when making. • To know that tools can be used to shape objects. • To know that different materials can be shaped by different tools. • 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 final product might be different to their original idea. • To know that their ideas can make someone else's work better. • To know that other people's ideas can help make their work better. • To know some real-life items that use wheels such as wheelbarrows, hamster wheels and vehicles.

• Saying what they like about their peers' designs and products. • Accepting feedback and understanding it is meant to improve their work. • Testing wheel and axle mechanisms, identifying what stops the wheels from turning and recognising that a wheel needs an axle in order to move.	
Year 2	
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. • Creating a class design criteria for a moving monster. • Designing a moving monster for a specific audience in accordance with a design criteria. • 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	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. • 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. • Recognising and exploring everyday objects that have mechanisms. • Exploring everyday objects that use levers (e.g scissors, tongs, door handle, stapler). Additional • To know the features of a fairground wheel include the wheel, frame, pods, a base an axle and an axle holder.

using ICT. • Integrating moving parts when creating mock-ups. 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. • 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. • 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. Evaluate • Discussing a range of existing products and saying what they like and	• To know some real-life objects that contain mechanisms. • 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.

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. • Evaluating own designs against design criteria. • Using peer feedback to modify a final design. • 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.	

Year 4

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. (e.g. 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

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.

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.	

Progression of Skills & knowledge

Electrical Systems

Year 4	
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.

Year 6	
Skills Design • Designing a steady hand game - identifying and naming the components required. • Drawing a design from three different perspectives. • Generating ideas through sketching and discussion. • Modelling ideas through prototypes. • Understanding the purpose of products (toys), including what is meant by ‘fit for purpose’ and ‘form over function’. Make • Constructing a stable base for a game. • Accurately cutting, folding and assembling a net. • Decorating the base of the game to a high quality finish. • Making and testing a circuit. • Incorporating a circuit into a base. Evaluate • Testing own and others finished games, identifying what went well and making suggestions for improvement. • Gathering images and information about existing children’s toys. • Analysing a selection of existing children’s toys.	Knowledge Technical • To know that batteries contain acid, which can be dangerous if they leak. • To know the names of the components in a basic series circuit, including a buzzer. Additional • To know that ‘form’ means the shape and appearance of an object. • To know the difference between 'form' and 'function'. • To understand that 'fit for purpose' means that a product works how it should and is easy to use. • To know that form over purpose means that a product looks good but does not work very well. • To know the importance of ‘form follows function’ when designing: the product must be designed primarily with the function in mind. • To understand the diagram perspectives 'top view', 'side view' and 'back'.

Progression of Skills & knowledge

Cooking and Nutrition

<table>
<tr><td colspan="2">EYFS</td></tr>
<tr><td>Skills Design
Designing a soup recipe as a class.
Designing soup packaging.
Make
Chopping plasticine safely.
Chopping vegetables with support.
Evaluate
Tasting the soup and giving opinions.
Describing some of the following when tasting food: look, feel, smell and taste.
Choosing their favourite packaging design and explaining why.</td><td>Knowledge
To know that soup is ingredients (usually vegetables and liquid) blended together.
To know that vegetables are grown.
To recognise and name some common vegetables.
To know that different vegetables taste different.
To know that eating vegetables is good for us.
To discuss why different packages might be used for different foods.</td></tr>
<tr><td colspan="2">Year 1</td></tr>
<tr><td>Skills Design
Designing smoothie carton packaging by-hand.
Learning where and how fruits and vegetables 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.
Evaluate
Tasting and evaluating different food combinations.
Describing appearance, smell and taste.
Suggesting information to be included on packaging.</td><td>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 a vegetable is any edible part of a plant.</td></tr>
</table>

• Comparing their own smoothie with someone else's.	

<table>
<tr><td colspan="2">Year 2</td></tr>
<tr><td>Skills Design
Designing three wrap ideas.
Make
Chopping foods safely to make a wrap.
Constructing a wrap that meets a design brief.
Grating foods to make a wrap.
Snipping smaller foods instead of cutting.
Spreading soft foods to make a wrap.
Identifying the five food groups.
Learning about a balanced diet.
Evaluate
Describing appearance, smell and taste.
Tasting and evaluating different food combinations.
Describing the information that should be included on a label.</td><td>Knowledge
To know that ‘diet’ means the food and drink that a person or animal usually eats.
To know what makes a balanced diet.
To know that the five main food groups are: Carbohydrates, fruits and vegetables, protein, dairy and foods high in fat and sugar.
To know that I should eat a range of different foods from each food group, and roughly how much of each food group.
To know that ‘ingredients’ means the items in a mixture or recipe.
To know how to cut, grate, snip and spread to prepare foods.
To know how to review and give a score to evaluate.</td></tr>
<tr><td colspan="2">Year 3</td></tr>
<tr><td>Skills Design
Describing how climate affects where foods grow.
Make
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
Describing the texture and flavour of ingredients.
Describing the benefits of seasonal fruits and vegetables and the</td><td>Knowledge
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 and 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.</td></tr>
</table>

impact on the environment.	

<table>
<tr><td colspan="2">Year 4</td></tr>
<tr><td>Skills Design
Designing a biscuit within a given budget.
Conducting market research.
Make
Following a baking recipe
Understanding safety and hygiene rules.
Adapting a recipe.
Evaluate
Evaluating an adapted recipe.
Evaluating and comparing a range of products.
Suggesting modifications.</td><td>Knowledge
To know that the amount of an ingredient in a recipe is known as the ‘quantity.’
To know that safety and hygiene are important when cooking.
To know the following cooking techniques: sieving, measuring, stirring, cutting out and shaping.
To know the importance of budgeting while planning ingredients for a recipe.
To know that products often have a target audience.</td></tr>
<tr><td colspan="2">Year 5</td></tr>
<tr><td>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.</td><td>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.</td></tr>
</table>

Year 6	
Skills Design • Writing a recipe, explaining the key steps, method and ingredients. • Including facts and drawings from research undertaken. Make • 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 • 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 in productions. • Evaluating health and safety in production to minimise cross contamination.	Knowledge • 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).

Progression of Skills & knowledge

Textiles

<table>
<tr><td colspan="2">EYFS</td></tr>
<tr><td>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</td><td>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.</td></tr>
<tr><td colspan="2">Year 1</td></tr>
<tr><td>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</td><td>Knowledge 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.
To know drawings are a way to explain ideas.
To know that choosing different materials or components will affect</td></tr>
</table>

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 steps for 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.	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. www.kapow

Year 3	
Skills Design • Designing and making a template from an existing cushion and applying individual design criteria. Make • Following design criteria to create a cushion or Egyptian collar. • Selecting and cutting fabrics with ease using fabric scissors. • Threading needles with greater independence. • Tying knots with greater independence. • Sewing cross stitch to join fabric. • Decorating fabric using appliqué. • Completing design ideas with stuffing and sewing the edges (Cushions) or embellishing the collars based on design ideas (Egyptian collars). Evaluate • Evaluating an end product and thinking of other ways in which to create similar items.	Knowledge • To know that applique is a way of mending or decorating a textile by applying smaller pieces of fabric to larger pieces. • To know that when two edges of fabric have been joined together it is called a seam. • To know that it is important to leave space on the fabric for the seam. • To understand that some products are turned inside out after sewing so the stitching is hidden.

Year 5	
Skills Design • Designing a stuffed toy, considering the main component shapes required and creating an appropriate template. • Considering the proportions of individual components. Make • Creating a 3D stuffed toy from a 2D design. • Measuring, marking and cutting fabric accurately and independently. • Creating strong and secure blanket stitches when joining fabric. • Threading needles independently. • Using appliqué to attach pieces of fabric decoration. • Sewing blanket stitch to join fabric. • Applying blanket stitch so the spaces between the stitches are even and regular. Evaluate • Testing and evaluating an end product and giving point for further improvements.	Knowledge • To know that blanket stitch is useful to reinforce the edges of a fabric material or join two pieces of fabric. • To understand that it is easier to finish simpler designs to a high standard. • To know that soft toys are often made by creating appendages separately and then attaching them to the main body. • To know that small, neat stitches which are pulled taut are important to ensure that the soft toy is strong and holds the stuffing securely

Progression of Skills & knowledge

Digital World

Year 3	
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. 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. Evaluate • Analysing and evaluating wearable technology. • Using feedback from peers to improve design.	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. Additional • To know what the 'digital revolution' is and the features of some of the products that 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.