Our Lady of the Rosary RC Primary School

Design and Technology Curriculum Overview

Our Journey

Love God

Others First

Respect All

Purpose of study

OLOR's high-quality Design and Technology education provides rich, varied learning, alongside practical activities so that each child is taught the knowledge and skills needed to engage in the process of designing, making and evaluating. We aim for all children to use creativity and imagination to design and make products that solve real life and purposeful problems. Across the school, children learn to work independently and collaboratively, applying knowledge and skills from across the curriculum.

Aims

The OLOR Design and Technology curriculum aims to ensure that all children:

- Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.
- Build and apply a repertoire of knowledge, understanding and skills to design and make high-quality prototypes and products for a wide range of users.
- Critique, evaluate and test their ideas and products and the work of others.
- Understand and apply the principles of nutrition and learn how to cook.

Intent

In Early Years Foundation Stage, children explore a range of materials, tools and construction through play and hands-on investigation. The children begin their cooking and nutrition journey **by** handling and tasting a variety of foods, talking about their likes and dislikes, and developing the fine motor skills needed to prepare simple ingredients. They are encouraged to experiment, take risks, and talk reflectively about their creations, developing the foundations of problem-solving, resilience and creativity.

As they move into Key Stage 1, children begin to design purposeful products for themselves and others. They learn how to use tools and equipment safely to cut, shape and join materials, and they begin to understand how products work by exploring real-life examples. They build their cooking and nutrition knowledge to include what healthy living is and learn about the importance of a varied and balanced diet. The children learn where food comes from and develop simple practical skills such as cutting, mixing and assembling ingredients safely and hygienically. Children are taught to evaluate their work, suggest improvements, and start to make decisions with greater independence.

In Key Stage 2, children apply a more detailed design process, using research to inform their ideas and considering the needs of different users. They learn how to record designs using a variety of methods, such as computer-aided design and annotated exploded diagrams. The children deepen their understanding of nutrition, as they gain a strong understanding of healthy eating, seasonality, and food preparation,

including preparing and cooking hot dishes safely. They refine practical skills with a broader range of materials and techniques, including structures, textiles, electrical systems and programming.

Implementation

Our Design and Technology curriculum is carefully sequenced to build knowledge, skills and understanding progressively from EYFS through to Year 6.

Early Years Foundation Stage

Design and Technology is embedded throughout the *Expressive Arts and Design* and *Physical Development* areas of learning and embedded with termly lessons. Children explore construction, materials and tools through structured play, small projects and continuous provision. Discrete Design and Technology lessons are also planned and taught throughout the year to encourage imaginative thinking, problem-solving and fine motor development.

Key Stage 1 and Key Stage 2

Design and Technology is taught as a discrete subject through termly projects, each with a clear focus on designing, making and evaluating. Skills are revisited and built upon so that children develop greater precision, independence and creativity as they move through the school.

Designing: Children are taught to research, plan and communicate ideas using sketches, models, computer-aided drawings and annotated diagrams.
Making: The children work with a wide range of materials and tools, developing safe and accurate techniques in cutting, shaping, joining and finishing.
Evaluating: Children reflect on their own and others' work, considering how effectively products meet their intended purpose and suggesting improvements.
Technical knowledge: Key concepts are introduced progressively, including mechanisms, structures, textiles then inclusive of electrical systems and digital systems in KS2.
Cooking and Nutrition: Children are taught cooking skills and nutrition through carefully chosen projects, promoting seasonal cooking and supporting a healthy lifestyle theme.
Cross-curricular links: Design and Technology is enriched by connections to other subjects, particularly Science, Maths, Art and Computing. This ensures that children apply and deepen their learning in meaningful, practical contexts.

Inclusion and enrichment: All children are given opportunities to succeed, with adaptations made where necessary to support access and challenge. As a school, we celebrate Design and Technology each year with a showcase to involve our wider school community.

Impact

At OLOR, the impact of our Design and Technology curriculum is reflected in children who can use and fluently recall a body of technical knowledge, understanding and practical skills to design and make purposeful products for a range of users.

This is monitored and evidenced through:

- Regular knowledge and skills assessments to check retention and depth of understanding.
- Ongoing attainment and progress tracking against age-related expectations.
- Subject leader monitoring, including lesson visits, book looks, pupil voice and analysis of assessment data.
- Pupil voice activities that reflect growing confidence, enjoyment and engagement in the subject.
- Participation in enrichment activities that extend learning beyond the classroom.
- Governor monitoring to ensure accountability and high standards.

As a result, our children leave OLOR well prepared for the next stage of their education and equipped with the cultural capital and curiosity to contribute as future designers, engineers and innovators.

Design & Technology Overview

	Autumn Term	Spring Term	Summer Term
Nursery	Mechanisms: Sliding Santa	Textiles: Flower threading	Food and Nutrition: Rainbow salad
Reception	Food and Nutrition: soup	Textiles: Bookmarks	Structures: boats
Year 1	Mechanisms: Wheels and axles	Structures: Stable structures	Food and Nutrition: Smoothies
Year 2	Food and Nutrition: Balanced Diet	Mechanisms: Fairground wheel	Textiles: Pouches
Year 3	Food and Nutrition: A seasonal tart	Digital World: Wearable technology	Textiles: Egyptian Collars
Year 4	Digital World: A mindful timer	Food and Nutrition: Adapting A Recipe	Structures: Helmets
Year 5	Mechanisms: Making a pop-up book	Food and Nutrition: Developing a recipe	Electrical systems: Doodlers
Year 6	Electrical systems: Steady hand game	Structures: Playgrounds	Food and Nutrition: Come Dine With Me

EYFS

<table>
<tr><th colspan="3">Nursery Mechanisms: Sliding Santa Chimney</th></tr>
<tr><td colspan="2"><u>Small steps</u></td><td><u>Unit outcomes</u></td></tr>
<tr><td colspan="2">To create a picture with a simple sliding mechanism.
To draw a simple representation of Santa.
To use one handed tools to cut out their drawing.
To use a permanent join to join two materials together.
To construct a chimney from a chosen template.
To decorate using a range of child selected materials and mediums.
To evaluate the final piece.</td><td>A pupil who is secure will be able to:.
Use one handed tools and equipment, for example making snips in the paper with scissors.
Use a comfortable grip with control when using pens and pencils.
Show a preference for a dominant hand.
Create a closed shape with continuous lines and begin to use these shapes to represent objects.
Draw with increasing complexity and detail, such as representing a face with a circle and including details.
Develop their own ideas and decide which materials to use to express them.
Characteristics of effective learning
› Playing and exploring

› Creating and thinking critically</td></tr>
<tr><td></td><td>Key skills</td><td><u>Key knowledge</u></td></tr>
<tr><td>Design</td><td>Discuss what a Santa design includes.
Design a simple Santa figure.</td><td></td></tr>
<tr><td>Make</td><td>Add colour to a Santa figure.
Develop fine motors skills by cutting a figure using one handed tools.
Assemble the figure using carefully chosen craft materials.
Decorate a design to add further detail using collage, colours or junk modelling.</td><td></td></tr>
<tr><td>Evaluate</td><td>Identify any problems with their final design.</td><td></td></tr>
</table>

	With guidance, suggest ways to fix any problems or improve their design.	
Technical knowledge	Identify the components needed for movement.	
Key Vocabulary	sliding mechanism sliding picture Christmas Santa Father Christmas chimney collage wide long width length permanent join temporary join	

<table>
<tr><th colspan="3">Nursery Textiles: Flower threading</th></tr>
<tr><td colspan="2">Small steps</td><td>Unit outcomes</td></tr>
<tr><td colspan="2">To draw an outline of a flower
To use scissors to cut out flower outline
To use a hole punch to create a pattern
To thread wool through the flower to create a pattern.</td><td>A pupil who is secure will be able to:.
Use one handed tools and equipment, for example making snips in the paper with scissors.
Use a comfortable grip with control when using pens and pencils.
Show a preference for a dominant hand.
Create a closed shape with continuous lines and begin to use these shapes to represent objects.
Draw with increasing complexity and detail, such as representing a face with a circle and including details.
Develop their own ideas and decide which materials to use to express them.
Join different materials.
Characteristics of effective learning

› Active learning

› Creating and thinking critically</td></tr>
<tr><td></td><td>Key skills</td><td>Key knowledge</td></tr>
<tr><td>Design</td><td>Discuss what a flower design includes.
Design a simple flower outline.</td><td></td></tr>
<tr><td>Make</td><td>Develop fine motors skills by cutting a flower outline using one handed tools (scissors, hole punch threading).
Design a pattern when using a hole punch and threading wool</td><td></td></tr>
<tr><td>Evaluate</td><td>Identify any problems with their final design.
With guidance, suggest ways to fix any problems or improve their design.</td><td></td></tr>
<tr><td>Technical knowledge</td><td>Identify the components needed for threading.</td><td></td></tr>
</table>

Key Vocabulary	thread punch pinch push pull through under over up down pattern

<table>
<tr><th colspan="3">Nursery Cooking and Nutrition: A rainbow salad</th></tr>
<tr><td colspan="2">Small steps</td><td>Unit outcomes</td></tr>
<tr><td colspan="2">To know the difference between fruit and vegetables

To begin to understand the importance of a balanced diet and the importance of healthy eating

To design a rainbow salad recipe.

To use one handed tools to cut and prepare the ingredients for the salad.

To create a rainbow salad</td><td>A pupil who is secure will be able to:.
• Use one handed tools and equipment, for example making snips in the paper with scissors.
• Use a comfortable grip with control when using pens and pencils.
• Show a preference for a dominant hand.
• Create a closed shape with continuous lines and begin to use these shapes to represent objects.
• Draw with increasing complexity and detail, such as representing a face with a circle and including details.
• Develop their own ideas and decide which materials to use to express them.
• Make healthy choices about food.
Characteristics of effective learning

› Active learning

› Creating and thinking critically</td></tr>
<tr><td></td><td>Key skills</td><td>Key knowledge</td></tr>
<tr><td>Design</td><td>Design a rainbow salad recipe</td><td></td></tr>
<tr><td>Make</td><td>Develop fine motors skills by cutting fruit
Create a rainbow salad</td><td></td></tr>
<tr><td>Evaluate</td><td>Reflecting on a finished product and comparing to their design.</td><td></td></tr>
<tr><td>Technical knowledge</td><td>Identify the components needed to make a rainbow salad.</td><td></td></tr>
<tr><td>Key Vocabulary</td><td colspan="2">Healthy balanced diet healthy eating healthy lifestyle mind body brain fruit and vegetable names, knife, chopping board</td></tr>
</table>

Reception Textiles: Bookmarks	
Small steps	**Unit outcomes**
• To develop threading and weaving skills. • To practise and apply weaving skills to a specific material e.g. paper. • To practise and apply threading skills with specific materials e.g. hessian and wool. • To use threading or sewing to design a product (bookmark). • To create a textiles product (bookmark) following their own design. • To reflect with children on how they have achieved their aims.	A pupil who is secure will be able to: Physical development Develop their small motor skills so that they can use a range of tools competently, safely and confidently. **ELG: Fine Motor Skills:** Use a range of small tools, including scissors, paint brushes and cutlery. 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. **ELG: Creating with materials:** Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. **ELG: Creating with materials:** Share their creations, explaining the process they have used. Characteristics of effective learning › Playing and exploring › Active learning › Creating and thinking critically

	Key skills	Key knowledge
Design	Discussing what a good design needs. Designing a simple pattern with paper. Designing a bookmark. Choosing from available materials.	To know that a design is a way of planning our idea before we start.
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.	To know that threading is putting one material through an object.
Evaluate	Reflecting on a finished product and comparing to their design.	
Technical knowledge		
Key Vocabulary	Thread, weave, pattern, through, sew, hessian, sewing needle, bookmark, embroider, Victorian, design, reflect, evaluate	

Reception Structures: Boats	
Small steps	**Unit outcomes**
• To understand what waterproof means and to test whether materials are waterproof. • To test and make predictions for which materials float or sink. To compare the uses of boats. • To investigate how the shape and structure of boats affects • the way they move. • To design a boat. • To create a boat based upon their own design.	A pupil who is secure will be able to: Communication and language Articulate their ideas and thoughts in well-formed sentences. Connect one idea or action to another using a range of connectives. Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen. **ELG: Speaking:** Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary **ELG: Speaking:** Offer explanations for why things might happen. Understanding the world Explore the natural world around them. **ELG: The Natural World:** Explore the natural world around them, making observations and drawing pictures of animals and plants Expressive arts and design Explore, use and refine a variety of artistic effects to express their ideas and feelings. **ELG: Creating with materials:** Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. **ELG: Creating with materials:** Share their creations, explaining the process they have used. Characteristics of effective learning › Playing and exploring › Active learning

		› Creating and thinking critically
	Key skills	Key knowledge
Design	Designing a junk model boat Using knowledge from exploration to inform design. Testing their design and reflecting on what could have been done differently.	To know the different parts of a boat.
Make	Making a boat that floats and is waterproof, considering material choices.	
Evaluate	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.	
Technical knowledge	Investigating the how the shapes and structure of a boat affect the way it moves.	To know that 'waterproof' materials are those which do not absorb water. To know that some objects float and others sink.
Key Vocabulary	Waterproof, material, absorb, investigation, float, sink, boat, ship, watercraft, sail, anchor, hull, mast	

Reception Cooking and Nutrition: Soup	
Small steps	**Unit outcomes**
• To explore fruits and vegetables and the differences between them. • To use adjectives to describe how fruits and vegetables look, feel, smell and taste. • To listen to and recall elements from the story 'The Best Pumpkin Soup.' • To explore a pumpkin and describe it using the five senses. • To design a fruit and vegetable soup recipe. • To practise cutting with a knife. • To learn how to use a knife safely. • To observe and help (where appropriate) with the use of tools to prepare ingredients. • To describe the finished product and evaluate the process. • To design food packaging.	A pupil who is secure will be able to: Communication and language Learn new vocabulary. Use new vocabulary throughout the day. **ELG: Speaking:** Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary. Personal, social and emotional development Know and talk about the different factors that support their overall health and wellbeing: healthy eating. **ELG: Managing self:** Manage their own basic hygiene and personal needs, including…understanding the importance of healthy food choices Physical development Develop small motor skills so that they can use a range of tools competently, safely and confidently. **ELG: Fine Motor Skills: Use a range of small tools, including scissors, paint brushes and cutlery.** Understanding the world Explore the natural world around them. **ELG: The Natural World:** Explore the natural world around them, making observations and drawing pictures of animals and plants. Expressive arts and design Explore, use and refine a variety of artistic effects to express ideas and feelings.

		ELG: Creating with materials: Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Characteristics of effective learning › Playing and exploring › Active learning
	Key skills	Key knowledge
Design	Designing a soup recipe as a class. Designing soup packaging. Choosing their favourite packaging design and explaining why.	To discuss why different packages might be used for different foods.
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.	
Technical 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.
Key Vocabulary	Sweet, sour, bitter, hollow, squelchy, chop, cut, sharp, handle, boil, blend, packaging, barcode, ingredients, reusable	

Key Stage 1

When designing and making, pupils should be taught to:

Design

Design purposeful, functional
, appealing products for themselves and other users based on design criteria

Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology

Make

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

Evaluate

Explore and evaluate a range of existing products

evaluate their ideas and products against design criteria

Technical knowledge

Build structures, exploring how they can be made stronger, stiffer and more stable

Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products

<table>
<tr><th colspan="3">Year 1 Structures: Stable Structures 5 lessons</th></tr>
<tr><td colspan="2">Small steps</td><td>Unit outcomes</td></tr>
<tr><td colspan="2">To explore stability by balancing
To explore wide and narrow bases by building towers
To test a structures stability with weight added in different places
To design a stable structure that meets the needs of the user
To use a variety of cutting and joining techniques to make a stable product</td><td>Pupils who are secure will be able to:
Explain that structures are things that are built and have a purpose.
Understand that structures with a wider base are more stable than ones with a narrow base.
Explain that extra weight added to the base of a structure makes it more stable.
Design a product for a particular user.
Use a sketch to show ideas.
Choose the best method for joining the parts of the product.
Make evenly spaced cuts.
Use scissors to cut out a shape neatly and accurately.
Explain what they like and dislike about their final product.</td></tr>
<tr><td></td><td>Key skills</td><td>Key knowledge</td></tr>
<tr><td>Design</td><td>Thinking about what others might want from a design.
Beginning to recognise how products and designs in the world around us solve certain needs.
Considering who they are designing for – identifying the user.
Stating what they intend to make and why – identifying the purpose.
Talking about ideas, with purpose and user in mind.
Talking about existing products when generating ideas.
Using basic drawing skills to communicate ideas.</td><td>The user is the person who will use the product.
Different users may want different things from a design.
Who they are designing for makes a difference to what they design.
The purpose is what something is for.
Existing products can help when deciding what to design.
Drawings are a way to explain ideas.</td></tr>
<tr><td>Make</td><td>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, etc.).
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 and evenly spaced lines.
Beginning to cut large shapes and thicker materials like card.</td><td>A plan is deciding what to do first and next.
Different equipment does different things.
Names of common pieces of equipment.
Some tools are sharp like scissors and knives.
Spacing cuts or marks evenly can be useful.
Different glue can be used to join different things.</td></tr>
</table>

Evaluate	• Discussing existing products, saying what they like about them. • Comparing two products and discussing which is better for a specific purpose. • Saying what they like about their peers' designs and products. • Accepting feedback and understanding it is meant to improve their work.	• Some products will be better than others. • Their ideas or products can be made better. • Their ideas can make someone else's work better and other people's ideas can help make their work better.
Technical knowledge	• Recognising that different structures are used for different purposes. • Exploring the features of structures. • Describing structures as buildings or freestanding structures. • Making stable structures from card. • Creating supporting structures to aid stability. • Using stable objects like cylinders to create structures.	• A structure is something that has been made and put together. • Stable structures do not topple. • Shapes and structures with wide, flat bases or legs are the most stable. • Adding weight to the base of a structure can make it more stable.
Key vocabulary	base better compare design freestanding stable structure unstable user worse	

<table>
<tr><th colspan="3">Year 1 Mechanisms: Wheels and axles 5 lessons</th></tr>
<tr><td colspan="2">Small steps</td><td>Unit outcomes</td></tr>
<tr><td colspan="2">To develop cutting skills by shaping wheels
To refine cutting skills by shaping round wheels
To evaluate by comparing and discussing different wheel designs
To create a design by drawing plans for a pull-along toy
To apply finishing techniques by decorating a pull-along toy</td><td>Pupils who are secure will be able to:
Choose and use the most suitable tool for cutting out different shapes accurately.
Test and compare wheels of different shapes, thicknesses and smoothness.
Estimate the middle of a circle.
Design, draw and label a product that uses a simple mechanism.
Identify the needs of the user.
Make and finish a simple pull-along toy.
Evaluate a product against simple design criteria and provide feedback.</td></tr>
<tr><td></td><td>Key skills</td><td>Key Knowledge</td></tr>
<tr><td>Design</td><td>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.</td><td>Many things that move have parts inside to help them work.</td></tr>
<tr><td>Make</td><td>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.
Refining their grip to cut competently and confidently.
Cutting straight lines and evenly spaced lines</td><td></td></tr>
</table>

	• 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 use controlled painting or colouring techniques to finish a product. • Adding texture to create visual interest.	
Evaluate	• 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. • Saying what they like about their peers' designs and products. • Accepting feedback and understanding it is meant to improve their work.	
Technical knowledge	• Recognising and exploring everyday objects that have mechanisms.	• Mechanisms usually limit unwanted movement. • An axle allows the wheel to turn without falling off.
Key Vocabulary	Axle axle holder better choose compare design dislike like mechanism movement product straight line tool turn user weel worse	

Year 1 Cooking and Nutrition: Smoothies 6 lessons		
Small steps		**Unit outcomes**
• To identify fruits • To describe where fruits and vegetables grow • To practise food preparation skills • To select ingredients for a recipe • To apply food preparation skills to a recipe • To evaluate against the design brief		• Describe fruits and vegetables and explain how to identify fruits. • Name a range of places that fruits and vegetables grow. • Describe basic characteristics of fruit and vegetables. • Prepare fruits and vegetables to make a smoothie.
	Key skills	Key knowledge
Design	• Designing smoothie carton packaging by hand. • Juicing fruits to make a smoothie. • Suggesting information to be included on packaging. •	
Make	• Juicing fruits to make a smoothie. • Chopping fruit and vegetables safely to make a smoothie	• That a blender is a machine which mixes ingredients together into a smooth liquid.
Evaluate	• Tasting and evaluating different foods • Describing appearance, smell and taste.	
Technical knowledge	• Identifying if a food is a fruit. • Learning where and how fruits and vegetables grow	• That vegetables can grow either above or below ground. • That vegetables are any edible part of a plant. • That fruits grow on trees or vines. • That a fruit has seeds and a vegetable does not.
Key Vocabulary	blend blender chopping board compare cut design evaluate flavour fork fruit healthy ingredients juice juicer	

Year 2 Food and Nutrition: A balanced diet 5 lessons		
Small steps • To recognise foods and their food groups. • To identify the balance of food groups in a meal. • To identify an appropriate piece of equipment to prepare a given food. • To select balanced combinations of ingredients. To design based on criteria. • To evaluate a dish based on design criteria.		**Unit outcomes** • A pupil who is secure will be able to: • Name the main food groups and identify foods that belong to each group. • Describe the taste, feel and smell of a given food. • Think of three different wrap ideas, considering flavour combinations. • Construct a wrap that meets the design brief and their plan.
	Key skills	Key knowledge
Design	• Learning about a balanced diet. • Designing three wrap ideas.	• That I should eat a range of different foods from each food group, and roughly how much of each food group. • That 'ingredients' means the items in a mixture or recipe.
Make	• Chopping foods safely to make a wrap. • Grating foods to make a wrap. • Snipping smaller foods instead of cutting. • Spreading soft foods to make a wrap.	• How to cut, grate, snip and spread to prepare foods.
Evaluate	• Tasting and evaluating different food combinations. • Describing appearance, smell and taste.	• How to review and give a score to evaluate.
Technical knowledge	• Identifying the five food groups.	• That 'diet' means the food and drink that a person or animal usually eats. • What makes a balanced diet. • That the five main food groups are: carbohydrates, fruits and vegetables, protein, dairy and oils and spreads.
Key Vocabulary	appearance, balanced, carbohydrates, chopping board, combination, cut, dairy, design, design brief, diet, evaluate, feel, fruit, grate, grater, ingredients, menu, oils, proteins, review, scissors, smell, snip, spread, spreads, table knife, taste, vegetables.	

<table>
<tr><th colspan="3">Year 2 Mechanisms: Fairground Wheels 5 lessons</th></tr>
<tr><td colspan="2">Small steps</td><td>Unit outcomes</td></tr>
<tr><td colspan="2">To explore wheel mechanisms and design a fairground wheel.
To select materials with appropriate properties.
To build and test a moving wheel.
To conduct a simple survey to gather opinions.
To finish and evaluate a structure with a rotating wheel.</td><td>Pupils who are secure will be able to:
Describe how axles help wheels move a vehicle and design and label a working fairground wheel.
Evaluate different designs.
Describe the properties of different materials and select appropriate materials for the wheel.
Build a stable structure, test elements of the design and adapt the design as necessary.
Make the wheel rotate, evaluate a wheel mechanism and adapt it as necessary.
Recall that a survey is used to find out what people like, tally results and use the results to inform the design.
Add pods for the correct number of people and ensure that the pods stay upright when rotating around a fixed point.
Explain the decisions for the pod design.</td></tr>
<tr><td></td><td>Key skills</td><td>Key knowledge</td></tr>
<tr><td>Design</td><td>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.</td><td>Everyday objects have mechanisms.
Many things that move have parts inside to help them work.
Everyday objects utilise wheels and axles.
The features of a fairground wheel include the wheel, frame, pods, axle and axle holder.</td></tr>
</table>

	• Integrating moving parts when creating mock-ups. • Knowing that drawings can help explain how something works. • Knowing that a label explains part of a drawing.	
Make	• Choosing materials, ingredients or components from a wider range of materials, ingredients or components. • Explaining their choices based on the properties of materials and components. • Knowing some properties of materials like hard, soft, flexible, waterproof, strong etc. • Following and recalling simple safety instructions. • Knowing that some tools are sharp like scissors and knives. • Choosing known geometric shapes when making. • Beginning to shape objects to improve how they work. • Knowing the names of some geometric shapes: triangle, pyramid, square, cube, circle, sphere. • Considering balance in their finishing, like evenly spaced decoration.	• Wheels must be able to turn to work effectively.
Evaluate	• Discussing a range of existing products and saying what they like and dislike about them. • Evaluating existing products against design criteria. • Evaluating their ideas and creations against simple design criteria. • Knowing that design criteria help to decide if their product is a success. • Suggesting improvements to their peers' designs and products. • Knowing that improve means to make something better. • Knowing that their suggestions can improve someone else's work.	
Technical knowledge		• Mechanisms usually limit unwanted movement. • Axles allow wheels to turn without falling off.
Key Vocabulary	design brief design criteria evaluate frame model opinion rotate survey	

Year 2 Textiles: Pouches 4 lessons		
Small steps		**Unit outcomes**
• To sew a running stitch • To join fabrics using a running stitch • To decorate a pouch using a running stitch of fabric glue.		Pupils who are secure will be able to: • Sew a running stitch with regular-sized stitches and understand that both ends must be knotted. • Prepare and cut fabric to make a pouch from a template. • Use a running stitch to join the two pieces of fabric together. • Decorate their pouch using the materials provided.
	Key skills	Key knowledge
Design	• Designing a pouch.	• To know that different stitches can be used when sewing.
Make	• Decorating a pouch using fabric glue or running stitch. • Threading a needle. • Sewing running stitch, with evenly spaced, neat, even stitches to join fabric. • Neatly pinning and cutting fabric using a template.	• To know that sewing is a method of joining fabric. • To understand the importance of tying a knot after sewing the final stitch. • To know that a thimble can be used to protect my fingers when sewing
Evaluate	• Evaluating the quality of the stitching on others' work. • Discussing as a class, the success of their stitching against the success criteria. • Identifying aspects of their peers' work that they particularly like and why. •	
Technical knowledge	• Troubleshooting scenarios posed by teacher. • Selecting and cutting fabrics for sewing.	
Key Vocabulary	decorate fabric fabric glue knot needle needle threader running stitch sew template thread	

Key Stage 2

Design

Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.

Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.

Make

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.

Evaluate

Investigate and analyse a range of existing products.

Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.

Understand how key events and individuals in design and technology have helped shape the world.

Technical knowledge

Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.

Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]

Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]

Apply their understanding of computing to program, monitor and control their products

<table>
<tr><th colspan="3">Year 3 Textiles: Egyptian Collars 4 lessons</th></tr>
<tr><td colspan="2">Small steps</td><td>Unit outcomes</td></tr>
<tr><td colspan="2">To learn how to sew cross-stitch and appliqué.
To develop and use a template.
To assemble fabric parts into a fabric product.
To decorate fabric using appliqué and cross-stitch.</td><td>Pupils who are secure will be able to:
Demonstrate their ability to use cross-stitch as a decorative feature or to join two pieces of fabric together.
Develop appliqué designs based on design criteria.
Design, cut and shape their template for an usekh or wesekh collar with increasing accuracy.
Decorate their Egyptian collar using a variety of techniques, such as appliqué, cross-stitch, beads, buttons and pinking.
Measure and attach a ribbon with a running stitch.
Recognise different types and qualities of fabrics.
Explain the aesthetic and functional properties of some of their material choices.</td></tr>
<tr><td></td><td>Key skills</td><td>Key knowledge</td></tr>
<tr><td>Design</td><td>Designing and making a template for an Egyptian collar and applying individual design criteria</td><td>To know that appliqué is a way of mending or decorating a textile by applying smaller pieces of fabric.
To understand that a product's function relies on material choices.
To identify and explain some materials and explain their aesthetic and functional properties</td></tr>
<tr><td>Make</td><td>Following their design criteria to create an 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 decorate or join fabric.
Decorating fabric using appliqué, beads (or other embellishments), ribbon and pinking scissors</td><td></td></tr>
<tr><td>Evaluate</td><td>Evaluating an end product</td><td></td></tr>
<tr><td>Technical knowledge</td><td></td><td></td></tr>
<tr><td>Key Vocabulary</td><td colspan="2">Asymmetrical symmetrical applique cotton cross-stitch embellish fabric patch pinking polyester running stitch silk template thread unique</td></tr>
</table>

Year 3 Digital World: Wearable technology 6 lessons		
Small step		**Unit outcomes**
• To research and evaluate existing products. • To develop design criteria. • To use code to program and control a product. • To develop and communicate ideas. • To develop ideas through computer-aided design (CAD). • To improve a design based on feedback.		• Pupils who are secure will be able to : • Give a brief explanation of the digital revolution and/or remember key examples. • Suggest a feature from the virtual micro:bit that is suitable for the product. • Write a program that initiates a flashing LED panel, or another pattern, on the virtual micro:bit when a button is pressed. • Identify errors, if testing is unsuccessful, by comparing their code to a correct example. • Explain the basic functionality of their finished program. • Suggest key features for a way to attach the product to the user, with some consideration for the overall theme and the user. • Create annotated diagrams to help illustrate how their product is worn. • Describe what is meant by 'point of sale display' with an example. • Follow basic design requirements using computer-aided design, drawing at least one shape with a text box and bright colours, following a demonstration. • Evaluate their design using a focus group.
	Key skills	Key knowledge
Design	• Problem solving by suggesting potential features on a micro:bit and justifying my ideas. • Developing design ideas through annotated sketches to create a product concept. • Developing design criteria to respond to a design brief. •	• To know what the 'Digital revolution' is and features of some of the products that have evolved as a result. • To understand what is meant by 'point of sale display.'
Make	• Drawing and manipulating 2D shapes, using computer-aided design, to produce a point of sale badge. • 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 an existing product.	• To know what a focus group is by taking part in one.

	• Using feedback from peers to improve a design	
Technical knowledge		• 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 can replicate the functions of an existing piece of technology. • To know that CAD stands for 'Computer-aided design'.
Key Vocabulary	Analogue analyse annotate badge computer-aided design (CAD) control design criteria develop digital digital revolution digital world display electronic electronic products fastening feature feedback form function function initiate layers monitor net opinion point of sale product product design program sense simulator smart technology test user	

<table>
<tr><th colspan="3">Year 3 Cooking and Nutrition: Eating Seasonally 6 lessons</th></tr>
<tr><td colspan="2">Small steps</td><td>Unit outcomes</td></tr>
<tr><td colspan="2">To explain why food comes from different places around the world.
To explain the benefits of seasonal foods.
To develop cutting and peeling skills.
To evaluate seasonal ingredients.
To design a mock-up using criteria.
To evaluate a dish.</td><td>A pupil who is secure will be able to:
Explain that fruits and vegetables grow in different countries based on their climates.
Understand that seasonal fruits and vegetables grow in a given season.
Understand that eating seasonal fruit and vegetables positively affects the environment.
Design a tart recipe using seasonal ingredients.</td></tr>
<tr><td></td><td>Key skills</td><td>Key knowledge</td></tr>
<tr><td>Design</td><td>Describing how climate affects where foods grow.
Identifying seasonal ingredients from the UK.
Tasting seasonal ingredients.
Describing the texture and flavour of ingredients.
Describing the benefits of seasonal fruits and vegetables and their impact on the environment.</td><td>That seasonal means foods that grow in a given season in a given country.
Some seasonal foods that grow in the UK and what season they grow in.
That eating seasonal foods can have a positive impact on the environment.
How to describe the flavour and texture of foods.
That similar coloured fruits and vegetables often have similar nutritional benefits.</td></tr>
<tr><td>Make</td><td>Peeling foods by hand or with a peeler.
Cutting ingredients safely.
Choosing ingredients based on a design brief.
Following the instructions within a recipe.</td><td>How to cut and peel safely.
That the appearance of food is as important as taste.</td></tr>
<tr><td>Evaluate</td><td></td><td></td></tr>
<tr><td>Technical knowledge</td><td></td><td></td></tr>
<tr><td>Key Vocabulary</td><td colspan="2">Appearance arid climate complimentary country cut design evaluate export fruit grate import ingredients Mediterranean mock-up mountain peel polar seasonal snip taste temperature texture tropical vegetable weather</td></tr>
</table>

<table>
<tr><th colspan="3">Year 4 Digital World: A mindful timer 6 lessons</th></tr>
<tr><td colspan="2">Small steps</td><td>Unit outcomes</td></tr>
<tr><td colspan="2">To evaluate existing products.
To develop design criteria.
To program and control a product.
To develop and communicate ideas.
To develop ideas through computer-aided design (CAD).
To consider feedback and evaluate.</td><td>A pupil who is secure will be able to:
State and/or describe the advantages and disadvantages of existing products (timers).
Understand how virtual micro:bit features could be used as part of a design idea.
Use research to inform design criteria.
Write a program that displays a timer on the virtual micro:bit based on their chosen seconds/minutes.
Suggest where the errors are, if testing is unsuccessful, by comparing the correct code to their own.
State key functions in the program editor (e.g. loops).
Evaluate the immediate appeal of the virtual micro:bit timer and how it might function.
Express which stages of the project they enjoyed or found more challenging.
Explain the need for a company to stand out against competition and/or state the importance of logos in business.
Recall and describe the name and use of key tools used in Sketchpad (CAD) software.
Fulfil the design requirements of the logo.
Evaluate the product using feedback from the user</td></tr>
<tr><td></td><td>Key skills</td><td>Key knowledge</td></tr>
<tr><td>Design</td><td>Writing design criteria for a programmed timer (micro:bit).
Exploring different mindfulness strategies.
Applying the results of research to further inform my design criteria.
Developing a prototype case for a mindful moment timer.
Understanding what a logo is and why they are important in the world of design and business.</td><td>To understand what variables are in programming.
To know some of the features of a micro:bit.
To understand the terms ‘ergonomic’ and ‘aesthetic’.</td></tr>
<tr><td>Make</td><td>Using and manipulating shapes and clipart by using computer-aided design (CAD), to produce a logo.
Following a list of design requirements.
Creating a 3D using modelling materials.</td><td>To know that a prototype is a 3D model made out of cheap materials, that allows us to test design ideas and make better decisions about size, shape and materials.</td></tr>
</table>

Evaluate	• Investigating and analysing a range of timers by identifying and comparing their advantages and disadvantages. • Evaluating a program against points on a design criteria and amending them to include any changes made. • Documenting and evaluating a project. • Using an exhibition to gather feedback. • Gathering feedback from the user to make suggested improvements to a product.	• To know that an exhibition is a way for companies to showcase products, meet potential new customers and gather feedback from users. •
Technical knowledge	• Programming a micro:bit in the Microsoft micro:bit editor, to time a set number of seconds/minutes upon button press. • Testing a program for bugs (errors in the code). • Finding and fixing bugs (debug) in code.	• To know that an algorithm is a set of instructions to be followed by the computer. • To know that it is important to check code for errors (bugs). • To know that a simulator can be used as a way of checking code works before installing it onto an electronic device.
Key Vocabulary	dvantage aesthetic annotate assemble block brand brand identity bug clipart coding computer-aided design (CAD) criteria debug design develop isadvantage display ergonomic evaluate exhibition feedback form function join logo loop mindfulness model net program prototype research script ketchpad test timer user variable	

Year 4 Cooking and Nutrition: Adapting a recipe 6 lessons		
Small steps		**Unit outcomes**
• To evaluate existing biscuit products. • To prepare and cook a dish. • To select ingredients and follow a budget. • To take inspiration from existing products. • To make and test a prototype biscuit. • To evaluate a final product. *** For lesson 5, it is important that a participant is invited to the lesson for market research for each group.**		• A pupil who is secure will be able to: • Describe features of biscuits using taste, texture and appearance. • Follow a recipe with support. • Use a budget to plan a recipe. • Adapt a recipe using additional ingredients
	Key skills	Key knowledge
Design	• Identifying a target audience. • Designing a biscuit within a given budget. • Suggesting modifications. • Adapting a recipe.	• That the amount of an ingredient in a recipe is known as the 'quantity'. • The importance of budgeting while planning ingredients for a recipe. • That products often have a target audience.
Make	• Following a baking recipe. • Understanding safety and hygiene rules.	• That safety and hygiene are important when cooking. • The following cooking techniques: sieving, measuring, mixing/stirring, cutting out and shaping.
Evaluate	• Evaluating and comparing a range of products. • Conducting market research. • Evaluating an adapted recipe.	
Technical knowledge		
Key Vocabulary	adapt addition appearance budget buttery combine comment compare construct cream crunchy cuboid cut design evaluate fold hygiene ingredients layout market research modify multiplication opinion pounds sieve sif target audience taste texture unique wooden spoon	

Year 4 Structures: Helmets 5 lessons		
Small steps		**Unit outcomes**
• To explore shell structures and design my own. • To make the shell of a helmet. • To assess how a helmet structure needs to be strengthened. • To strengthen the helmet shell structure. • To evaluate the effectiveness of strengthening the helmet.		A pupil who is secure will be able to: • Create and annotate design plans for a shell structure, identifying shape, material and purpose. • Explore different shell structures, analyse user needs and make a design plan. • Use tools to shape and assemble parts of a shell structure. • Use layering techniques to strengthen a shell structure. • Choose from materials to best strengthen and stabilise shell structures. • Evaluate shell structures after testing, considering peer feedback and making improvements. • Explain how a shell structure can be strengthened and stiffened.
	Key skills	Key knowledge
Design	• Creating simple design criteria that outline the basic functions of a helmet. • Designing a shell structure based on user needs. • Developing sketching skills with a focus on clarity and simplicity.	• How design criteria help to plan for a product.
Make	• Selecting materials for a specific use. • Explaining choices with regard to function and form. • Choosing shapes to suit the function of a product.	• Form is the look and shape of something. • Function is what something does and how it works. • Creating accurate shapes improves how they look and sometimes their function.
Evaluate	• Evaluating designs by comparing them against design criteria. • Considering feedback from peers to suggest improvements. • Evaluating how effective the chosen materials were in fulfilling the design brief.	• Choices of materials and equipment can affect the final product.
Technical knowledge	• Stiffening structures by layering. • Strengthening structures by layering materials (lamination). • Strengthening structures by ribbing.	• How some different structures are built. • Structures can be strengthened by manipulating materials and shapes. • A shell structure is a hollow shape with a thin outer layer.
Key Vocabulary	analyse effective iteration reflect strengthen	

Year 5 Cooking and Nutrition: Developing a recipe 6 lessons		
Small steps		**Unit outcomes**
• To understand how ingredients are reared and processed. • To make adaptations to design a recipe. • To evaluate nutritional content. • To practise food preparation skills. • To design a product label. • To follow and make an adapted recipe.		A pupil who is secure will be able to: • Describe the process of beef production. • Research a traditional recipe and make changes to it. • Add nutritional value to a recipe by selecting ingredients. • Prepare and cook a version of bolognaise sauce.
	Key skills	Key knowledge
Design	• Explaining the farm-to-fork process • Researching existing recipes • Suggesting alternative ingredients • Analysing nutritional content • Writing an alternative recipe • Understanding cross-contamination	• That beef comes from cows reared on farms. • That recipes can be adapted to suit nutritional needs and dietary requirements. • That nutritional information is found on food packaging. •
Make	• Using preparation skills. • Making a developed recipe.	• That coloured chopping boards can prevent cross-contamination. • That food packaging serves many purposes.
Evaluate		
Technical knowledge	• Designing a jar label.	
Key Vocabulary	abattoir adaptation balanced beef brand cook cross-contamination cut design enhance equipment evaluate farm grate hygiene ingredients label measure nutrient nutrition nutritional value preference press process recipe safety theme	

<table>
<tr><th colspan="3">Year 5 Mechanisms: Making a pop-up book</th></tr>
<tr><td colspan="2">Small steps</td><td>Unit outcomes</td></tr>
<tr><td colspan="2">To design a pop-up book.
To follow my design brief to make my pop-up book.
To use layers and spacers to cover the working of mechanisms.
To create a high-quality product suitable for a target user.</td><td>A pupil who is secure will be able to:
Produce a suitable plan for each page of their book.
Produce the structure of the book.
Assemble the components necessary for all their structures/mechanisms.
Hide the mechanical elements with more layers using spacers where needed.
Use a range of mechanisms and structures to illustrate their story and make it interactive for the users.
Use appropriate materials and captions to illustrate the story.</td></tr>
<tr><td></td><td>Key skills</td><td>Key knowledge</td></tr>
<tr><td>Design</td><td>Designing a pop-up book which uses a mixture of structures and mechanisms.
Storyboarding ideas for a book.</td><td>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.</td></tr>
<tr><td>Make</td><td>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.</td><td></td></tr>
<tr><td>Evaluate</td><td>Evaluating the work of others and receiving feedback on own work.
Suggesting points for improvement.</td><td></td></tr>
<tr><td>Technical knowledge</td><td>Naming each mechanism, input and output accurately.</td><td>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.</td></tr>
<tr><td>Key Vocabulary</td><td colspan="2">Criteria design input mechanism model motion reinforce research</td></tr>
</table>

<table>
<tr><th colspan="3">Year 5 Electrical Systems: Doodlers 4 lessons</th></tr>
<tr><th colspan="2">Small steps</th><th>Unit outcomes</th></tr>
<tr><td colspan="2">To understand how motors are used in electrical products.
To investigate an existing product to determine the fats that affect the product's form and function.
To apply the findings from research to develop a unique product.
To develop a DIY kit for another individual to assemble their product.</td><td>A pupil who is secure will be able to:
Identify simple circuit components (battery, bulb and switch) with a basic explanation of their function.
Explain that a series circuit is assembled in a loop to allow the electricity to flow along one path.
Describe a motor as a circuit component that changes electrical energy into movement.
Provide examples of motorised products that use movement to rotate or spin different parts.
Suggest ways to switch the configuration to amend the form or function of the Doodler.
Explain each of the changes they made and the effect this had on the Doodler's ability to draw scribbles (function) and appearance (form).
Develop design criteria with consideration for the target user, the purpose of their Doodler, a key function and the Doodler's form and final appearance (e.g. fun, bright, soft).
Explain simply why their Doodler has a certain configuration based on the findings of their investigation (e.g. I used four pens because the Doodler would fall over with two).
Create a functional Doodler that creates scribbles on paper.
Identify and list each of the required materials, tools and circuit components required to build a Doodler.
Explain simply the steps to assemble a Doodler as part of a set of instructions (or storyboard).
Write instructions to build a functional circuit, explaining how to identify if it is functional or not.
Provide suggestions to improve a peer's set of instructions after testing how effective they are at guiding someone.</td></tr>
<tr><td></td><td>Key skills</td><td>Key knowledge</td></tr>
<tr><td>Design</td><td>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.</td><td></td></tr>
</table>

	• Developing design criteria that clarifies the target user. • Altering a product's form and function by tinkering with its configuration.	
Make	• 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. • Analysing whether changes in configuration positively or negatively affect an existing product. • Peer evaluating a set of instructions to build a product.	
Technical knowledge	• Determining which parts of a product affect its function and which parts affect its form.	• To know that, in a series circuit, electricity only flows in one direction. • 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.
Key Vocabulary	circuit component configuration current develop DIY investigate motor motorised problem solve product analysis series circuit stable target user	

<table>
<tr><th colspan="3">Year 6 Electrical systems: Steady hand game 4 lessons</th></tr>
<tr><td colspan="2">Small steps</td><td>Unit outcomes</td></tr>
<tr><td colspan="2">To research and analyse a range of children's toys.
To design a steady hand game.
To construct a stable base.
To assemble electronics and complete their electronic game.</td><td>A pupil who is secure will be able to:
Explain simply what is meant by 'form' (the shape of a product) and 'function' (how a product works).
State what they like or dislike about an existing children's toy and why.
Learn about skills developed through play and apply this knowledge in a survey of one or more children's toys.
Identify the components of a steady hand game.
Design a steady hand game of their own according to their design criteria, using four different perspective drawings.
Create a secure base for their game, with neat edges, that relates to their design.
Make and test a functioning circuit and assemble it within a case.</td></tr>
<tr><td></td><td>Key skills</td><td>Key knowledge</td></tr>
<tr><td>Design</td><td>Designing a steady hand game, identifying and naming the components required.
Drawing a design from three different perspectives.
Generating ideas through sketching and discussion.
Understanding the purpose of products (toys), including what is meant by 'fit for purpose' and 'form over function'.</td><td>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.</td></tr>
<tr><td>Make</td><td>Modelling ideas through prototypes.
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.</td><td>To understand the diagram perspectives 'top view', 'side view' and 'back'.</td></tr>
<tr><td>Evaluate</td><td>Testing their 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.</td><td></td></tr>
</table>

Technical knowledge		
Key Vocabulary	assemble battery battery pack benefit bulb bulb holder buzzer circuit circuit symbol component conductor copper design design criteria evaluation fine motor skills fit for purpose form function gross motor skills insulator LED user	

<table>
<tr><th colspan="3">Year 6 Structures: Playgrounds 4 lessons</th></tr>
<tr><td colspan="2">Small steps</td><td>Unit outcomes</td></tr>
<tr><td colspan="2">To design a playground with a variety of structures.

To build a range of structures.

To improve and add detail to structures.

To create a surrounding landscape.</td><td>A pupil who is secure will be able to:
Create five apparatus designs, applying the design criteria to their work.
Make suitable changes to their work after peer evaluation.
Make roughly three different structures from their plans using the materials available.
Complete their structures, improving the quality of their rough versions and applying some cladding to a few areas.
Secure their apparatus to a base.
Make a range of landscape features using a variety of materials which will enhance their apparatus.</td></tr>
<tr><td></td><td>Key skills</td><td>Key knowledge</td></tr>
<tr><td>Design</td><td>Designing a playground featuring a variety of different structures, giving consideration to how the structures will be used.
Considering effective and ineffective designs.</td><td>To know that structures can be strengthened by manipulating materials and shapes.
To understand what a ‘footprint plan’ is.</td></tr>
<tr><td>Make</td><td>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.</td><td></td></tr>
<tr><td>Evaluate</td><td>Improving a design plan based on peer evaluation.
Testing and adapting a design to improve it as it is developed.</td><td>To understand that in the real world, design can impact users in positive and negative ways.</td></tr>
<tr><td>Technical knowledge</td><td>Using a range of materials to reinforce and add decoration to structures.
Identifying what makes a successful structure.</td><td>To know that a prototype is a cheap model to test a design idea.</td></tr>
<tr><td>Key Vocabulary</td><td colspan="2">apparatus cladding design criteria equipment landscape features playground</td></tr>
</table>

<table>
<tr><th colspan="3">Year 6 Cooking and Nutrition: Come Dine With Me 5 lessons</th></tr>
<tr><td colspan="2">Small steps</td><td>Unit outcomes</td></tr>
<tr><td colspan="2">• To explain the use of complementary flavours.
• To research and design a three-course meal.
• To apply culinary skills and knowledge (Starter, main, dessert).</td><td>A pupil who is secure will be able to:
• Find a suitable recipe for their course.
• Record the relevant ingredients and equipment needed.
• Follow a recipe, including using the correct quantities of each ingredient.
• Write a recipe, explaining the process taken.
• Explain where certain key foods come from before they appear on the supermarket shelf.</td></tr>
<tr><td></td><td>Key skills</td><td>Key knowledge</td></tr>
<tr><td>Design</td><td>• Writing a recipe, explaining the key steps, method and ingredients.
• Including facts and drawings from research undertaken.
• Adapting a recipe based on research.</td><td>• That ‘flavour’ is how a food or drink tastes.
• That many countries have ‘national dishes’ which are recipes associated with that country.
• That ‘processed food’ means food that has been put through multiple changes in a factory.
• What happens to a certain food before it appears on the supermarket shelf (farm to fork).</td></tr>
<tr><td>Make</td><td>• Following a recipe, including using the correct quantities of each ingredient.
• Working to a given timescale.
• Working safely and hygienically with independence.</td><td>• That it is important to wash fruit and vegetables before eating to remove any dirt and insecticides.</td></tr>
<tr><td>Evaluate</td><td>• 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.</td><td></td></tr>
<tr><td>Technical knowledge</td><td></td><td></td></tr>
<tr><td>Key Vocabulary</td><td colspan="2">balance bitter bridge method complement cookbook cross-contamination enhance equipment farm to fork flavours ingredients method pairing preparation recipe research salty sour storyboard sweet umami</td></tr>
</table>