MANLEY PARK
PRIMARY SCHOOL
GROWING TOGETHER

VISION

Manley Park: we all belong.

Together, we are committed to all learners being inspired to achieve academic success. We provide learning experiences that are relevant, motivational and challenging. Our curriculum and collaborative learning approaches nurture individual personal growth. Pupils become socially responsible citizens of our community and the world.

CURRICULUM INTENT

Intention one: Our learners will achieve excellent and sustained academic progress.

Intention two: Our learners will develop effective lifelong learning behaviours.

Intention three: Our learners will be supported to think critically and creatively.

Intention four: Our learners will become well informed and responsible citizens.

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EYFS Statutory Framework and the National Curriculum

EYFS Statutory Educational Programme:

Expressive arts and design

The development of children's artistic and cultural awareness supports their imagination and creativity. It is important that children have regular opportunities to engage with the arts, enabling them to explore and play with a wide range of media and materials. The quality and variety of what children see, hear and participate in is crucial for developing their understanding, self-expression, vocabulary and ability to communicate through the arts. The frequency, repetition and depth of their experiences are fundamental to their progress in interpreting and appreciating what they hear, respond to and observe.

Early Learning Goals: Creating with Materials

Children at the expected level of development will:

- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.
- Share their creations, explaining the process they have used.
- Make use of props and materials when role playing characters in narratives and stories.

Early Learning Goals: Fine Motor Skills

Children at the expected level of development will.

- Hold a pencil effectively in preparation for fluent writing – using the tripod grip in almost all cases; - Use a range of small tools, including scissors, paint brushes and cutlery.
- Begin to show accuracy and care when drawing.

Development Matters Objectives (Non statutory)

Nursery

- Explore different materials freely, to develop their ideas about how to use them and what to make.
- Talk about the differences between materials and changes they notice.
- Join different materials and explore different textures.
- Develop their own ideas and then decide which materials to use to express them.
- Join different materials and explore different textures.

Reception

- Create collaboratively, sharing ideas, resources and skills.
- 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.
- Explore, use and refine a variety of artistic effects to express their ideas and feelings.

National Curriculum

Purpose of study

Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

Aims

The national curriculum for design and technology aims to ensure that all pupils:

- 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 in order 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.

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Attainment Targets

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Subject content - Where the NC is covered at MPPS

Key stage 1

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].

Pupils should be taught to:

NC Objectives	Year 1	Year 2
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 builds 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.	/	/

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Key stage 2

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example]

Pupils should be taught:

NC Objectives	Year 3	Year 4	Year 5	Year 6
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	/ Exploded Diagram Pattern pieces CAD	/ Cross-sectional diagrams Pattern Pieces	/ Exploded Diagram Pattern Pieces CAD	/ Exploded Diagrams
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	/	/	/	/

Cooking and nutrition

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As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life. Pupils should be taught to:

Key Stage 1

NC Objectives	Year 1	Year 2
Use the basic principles of a healthy and varied diet to prepare dishes	/	/
understand where food comes from.	/	/

Key Stage 2

NC Objectives	Year 3	Year 4	Year 5	Year 6
Understand and apply the principles of a healthy and varied diet	/	/	/	/
Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques	/	/	/	/
Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.	/	/	/ Seasonality/use of the orchard.	/

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How we ensure progression in Design and Technology at Manley Park Primary School

Design and Technology in the Early Years Foundation Stage

Tasks and Key Artists/Designers

Year Group	Task	Task	Task	Task	Task
Nursery	Modelling how to use Junk Modelling materials, including cutting and sticking.	*Baking gingerbread men and talk about the changes they see (link with Literacy)*	Use a hole punch and cutting skills to create animals *(link with Literacy)*	Construct Jack's house/giant's castle using building blocks.	Construct the three little pigs houses using and joining a variety of materials.
Reception	Loose parts and junk modelling based on celebrations. Thanksgiving cars. Sita's chariot. Direct teach/challenge/technique of the week.	Design vehicles. Makedo international. Sustainability. Boats-Oliver Jeffries. Chinese lamps- Lunar New Year.	TOTW: Poppies. Spring flowers. Tidy.	TBD	3D tree with textures. Girl who planted trees. Recap all skills in the creative area. Edit and Improve.

Skills and Knowledge in Nursery

Expressive arts and design:

The development of children's artistic and cultural awareness supports their imagination and creativity. It is important that children have regular opportunities to engage with the arts, enabling them to explore and play with a wide range of media and materials. The quality and variety of what children see, hear and participate in is crucial for developing their understanding, self-expression, vocabulary and ability to communicate through the arts. The frequency, repetition and depth of their experiences are fundamental to their progress in interpreting and appreciating what they hear, respond to and observe.

Development Matters Objectives	**Explore different materials freely, to develop their ideas about how to use them and what**	**Develop their own ideas and then decide which materials to use to express them.**	**Join different materials and explore different textures.**

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	to make.		
Skills Development	**Skills Development** *Explore malleable resources* *Manipulate and play with different materials: wooden blocks, junk materials and fabric to make simple models.* Use their imagination and make simple models which express their ideas	**Skills Development:** Manipulate and play with different materials: wooden blocks, junk materials and fabric to make simple models. Manipulate and join a variety of different materials to develop their own ideas. Create something else using boxes eg a house or vehicle Use blocks for bridging and enclosures Talk about what they are making Make imaginative models with blocks and construction equipment. Talk about what they like about their design and what they would like to change Build for a purpose with a range of constructruction equipment.	**Skills Development:** *Manipulate and play with different materials: junk materials and fabric to make simple creations* Join things together(boxes, card, paper) with glue or tape.
Knowledge	**Knowledge:** Knowledge of the properties of different materials - e.g. paper that can be ripped or snipped but card is stiffer and harder to rip or cut. How to use resources available in order to create models eg scissors, tape, glue. Knowledge of how to use different tools safely.	**Knowledge:** Knowledge of how to use different tools safely. How to use resources available in order to make creations.	**Knowledge:** Knowledge of which materials can be joined easily using resources they are familiar with. Knowledge of how to use different tools safely. Vocab: fix, naming tools and equipment, collage, hard, soft
Vocabulary	**Vocab:** Naming tools and equipment e.g. sellotape, card, fix, press, roll, squash, squeeze, stretch.	**Vocab:** Naming tools and equipment.	**Vocab:** Naming tools and equipment.

Skills Progression in Nursery

Expressive arts and design: The development of children's artistic and cultural awareness supports their imagination and creativity. It is important that children have regular opportunities to engage with the arts, enabling them to explore and play with a wide range of media and materials. The quality and variety of what children see, hear and participate in is crucial for developing their understanding, self-expression, vocabulary and ability to communicate through the arts. The frequency, repetition and depth of their experiences are fundamental to their progress in interpreting and appreciating what they hear, respond to and observe.
Nursery progression throughout the year

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Explore different materials freely, to develop their ideas about how to use them and what to make.	• Explain what they are making. • Name some materials. • Select materials from a limited range. • Select and name the tools needed to work the materials e.g. scissors for paper • Make simple models. • Use a hole punch. • Explore ideas by rearranging materials. • Safely use tools.
Develop their own ideas and then decide which materials to use to express them.	• Manipulate and join different materials. • Create a 3D model using materials. • Make models with construction materials. • Build for a purpose. • Talk about what they like about their design and what they might change.
Join different materials and explore different textures.	• Join things together with glue or tape (cut and stick)
End Points Select and join different materials	

Skills and Knowledge in Reception

Expressive arts and design:

The development of children's artistic and cultural awareness supports their imagination and creativity. It is important that children have regular opportunities to engage with the arts, enabling them to explore and play with a wide range of media and materials. The quality and variety of what children see, hear and participate in is crucial for developing their understanding, self-expression, vocabulary and ability to communicate through the arts. The frequency, repetition and depth of their experiences are fundamental to their progress in interpreting and appreciating what they hear, respond to and observe.

Development Matters Objectives	**Explore, use and refine a variety of artistic effects to express their ideas and feelings.**	**Return to and build on their previous learning, refining ideas and developing their ability to represent them.**	**Create collaboratively, sharing ideas, resources and skills.**
Skills Development	**Skills Development:** Use a variety of tools. Use large scale loose parts to create models	**Skills Development:** Choose materials carefully to make their idea	**Skills Development:** Construct with a purpose in mind using a variety of resources.

	such as vehicles and houses to support play. Construct with a purpose in mind, using a variety of resources. Choose materials carefully to make their idea	Adapt their model to achieve a desired outcome. Improve their models	Explain how they created something to their peers including why they chose a particular technique or material and why it is suitable Work in a group to create a model.
Knowledge	**Knowledge:** How to use different tools safely. Names and simple properties of materials. Different techniques for joining materials, such as how to use adhesive tape and different sorts of glue.	**Knowledge:** How to improve their creations Different techniques they could use.	**Knowledge:** How to take turns How to be respectful
Vocabulary	**Vocab**: design, texture e.g. smooth, bumpy, rough, represent, materials e.g. fabric, wood, shape, space, construct, create, combine, join, attach, connect, mould flatten, pinch,, safety, purpose, artists, 2D, 3D	**Vocab:** design, problem solve	**Vocab:** team work, share ideas, problem solve.

Skills Progression in Reception

Expressive arts and design:	
The development of children's artistic and cultural awareness supports their imagination and creativity. It is important that children have regular opportunities to engage with the arts, enabling them to explore and play with a wide range of media and materials. The quality and variety of what children see, hear and participate in is crucial for developing their understanding, self-expression, vocabulary and ability to communicate through the arts. The frequency, repetition and depth of their experiences are fundamental to their progress in interpreting and appreciating what they hear, respond to and observe.	
Reception progression throughout the year	
Explore, use and refine a variety of artistic effects to express their ideas and feelings.	• Explain what they are making. • Name materials. • Carefully select materials from a wider range. • Select and name a variety of tools. • Make models. • Use large scale loose parts to create models such as vehicles and houses to support play. • Explore ideas by rearranging materials.

	• Safely use a wider range of tools.
Return to and build on their previous learning, refining ideas and developing their ability to represent them.	• Manipulate and join different materials. • Create a 3D model using materials. • Adapt their models to achieve a desired outcome. • Improve their models. • Begin to use different techniques. • Construct with a purpose in mind.
Create collaboratively, sharing ideas, resources and skills.	• Explain how they created something to their peers including why they chose a particular technique or material and why it is suitable. • Work in a group to create a model.
Creating with Materials ELG Children at the expected level of development will: • Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form, and function; • Share their creations, explaining the process they have used.	

Bridging into the National Curriculum

Early Learning Goals - Creating with Materials

- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form, and function.
- Share their creations, explaining the process they have used.

Early Learning Goals: Fine Motor Skills

- Use a range of small tools, including scissors, paint brushes and cutlery.
- Begin to show accuracy and care when drawing.

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How our early years curriculum prepares for the next stage of education

Early Learning Goals	NC Areas	Year 1
Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	**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. 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.
	Technical knowledge	
Share their creations, explaining the process they have used.	**Evaluate**	Explore and evaluate a range of existing products and evaluate their ideas and products against design criteria.
Use a range of small tools, including scissors, paint brushes and cutlery. **Begin to show accuracy and care when drawing.**	**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.
	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

Delivering the National Curriculum

Aims - The national curriculum for design and Technology aims to ensure that all pupils:

- **Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.**

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What and How (What creative work will they produce each year. How they will progressively explore their ideas and record experiences.)

Year Group	Across the year Nursery Children will:		
Nursery	• Explain what they are making. • Name some materials.		
Reception	• Explain what they are making in more detail. • Name materials.		
Year 1	**Cooking and nutrition-** Preparing fruit. (Fruit Kebab) • Begin to draw on their own experience to help generate ideas. • Start to suggest ideas and explain what they are going to do. • Taste a variety of fruits and verbalise their thoughts. • Understand how to identify a target group for what they intend to design and make based on a design criteria. • Begin to develop their ideas through talk and simple drawings. Communicate with others about how they want to make their product	**Structures-** Free Standing structures . (3D House) • Begin to draw on their own experience to help generate ideas • Begin to understand the development of existing products: Explain what they are for, how they work, what materials have been used. • Start to suggest ideas and explain what they are going to do. • Understand how to identify a target group for what they intend to design and make based on a design criteria. • Begin to develop their ideas through talk and simple drawings. • Use simple paper templates. • Make mockups of their ideas in card and paper. • Communicate with others about how they want to construct their product. • Explain how they intend to fix simple materials.	**Mechanisms-** Sliders and levers. (Moving Storyboard) • Begin to draw on their own experience (toys and play) to help generate ideas. • Begin to understand the development of existing products: • Begin to explain how products work,why, what materials have been used. • Start to suggest ideas and explain what they are going to do. • Understand how to identify a target group for what they intend to design and make based on a design criteria. • Begin to develop their ideas through talk and simple drawings. • Make mockups of their ideas in card and paper. • Communicate with others about how they want to construct their product. • Explain how they intend to fix simple materials.
Year 2	**Mechanisms-** Wheels and Axles. (Moving Bus) • Start to generate ideas by drawing on their own and other people's experiences. • Begin to develop their design ideas through discussion, observation, drawing and modelling. • Identify a purpose for what they intend to design and make. • Understand how to identify a target group for what they intend to design and make based on a design criteria.	**Cooking and nutrition-** Preparing vegetables. (Pita Pizzas) • Start to generate ideas by drawing on their own and other people's experiences. • Begin to develop their design ideas through discussion, observation, drawing and modelling. • Identify a purpose for what they intend to design and make. • Understand how to identify a target group for what they intend to design and make based on a design criteria.	**Textiles-** Templates and joining techniques. (puppet) • Start to generate ideas by drawing on their own and other people's experiences. • Begin to develop their design ideas through discussion, observation, drawing and modelling. • Identify a purpose for what they intend to design and make. • Understand how to identify a target group for what they intend to design and make based on a design criteria.

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	• Develop their ideas through talk and drawings and label parts. • Begin to explain why they chose certain materials. • Explain how products work,why, what materials have been used. • Develop their ideas from certain starting points.	• Develop their ideas through talk and drawings and label parts. • Taste a variety of vegetables and verbalise their thoughts. • Begin to explain why they chose a certain ingredient based on the 5 senses. • Develop their ideas from starting points.	• Develop their ideas through talk and drawings and label parts. • Use paper templates. • Begin to explain why they chose a certain material. • Develop their ideas from starting points.
Year 3	**Cooking and Nutrition** Healthy and varied diet (Vegetable Soup) • With growing confidence generate ideas for a product, considering its purpose and the user/s. • Start to order the main stages of making a product. • Identify a purpose and establish criteria for a successful product. • Understand how well products have been designed, made, what ingredients have been used. • Learn about key events and individuals have developed ground-breaking products. • Know to make drawings with labels when designing. • When planning, explain their choice of ingredients and equipment including function and appearance. • Put together a step-by-step plan which shows the order and also what equipment and tools they need.	**Mechanical systems-** Levers and linkages. (Egyptian Shaduf) • With growing confidence generate ideas for a product, considering its purpose and the user/s. • Start to order the main stages of making a product. • Identify a purpose and establish criteria for a successful product. • Begin to understand how well products have been designed, made, what materials have been used and the construction technique. • Learn about key events and individuals have developed ground-breaking products. • Start to understand whether products can be recycled or reused. • Know to make drawings with labels when designing. • When planning, explain their choice of materials and components including function and aesthetics. • Put together a step-by-step plan which shows the order and also what equipment and tools they need.	**Shell Structures-** using CAD (Classroom Storage) **Tinkercad** • With growing confidence generate ideas for a product, considering its purpose and the user/s using CAD. • Start to order the main stages of making a product. • Identify a purpose and establish criteria for a successful product. • Understand how well products have been designed, made, what materials have been used and the construction technique. • Learn about key events and individuals have developed ground-breaking products. • Start to understand whether products can be recycled or reused. • Know to make drawings with labels when designing. • When planning, explain their choice of materials and components including function and aesthetics. • Put together a step-by-step plan which shows the order and also what equipment and tools they need.

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Year 4	**Cooking and nutrition-** Healthy and varied diet. (Pasta Salad) • Start to generate ideas, considering the purposes for which they are designing - link with Mathematics. • Confidently make labelled drawings from different views showing specific features -cross section. • Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail. Identify the strengths and areas for development in their ideas and products. When planning, consider the views of others (including intended users) to improve their work. • Learn about key events and individuals have developed ground-breaking products. • When planning, explain their choice of materials and components according to function and aesthetic. • Take account of the ideas of others when designing. • Produce a plan and explain it to others. Consider how to present their product in an interesting way.	**Electrical systems -** (Night Light) • Start to generate ideas, considering the purposes for which they are designing- link with Science. • Confidently make labelled drawings from different views showing specific features - show circuit inside. • Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail. Identify the strengths and areas for development in their ideas and products. When planning, consider the views of others (including intended users) to improve their work. • Learn about key events and individuals have developed ground-breaking products. • When planning, explain their choice of materials and components according to function and aesthetic. • Take account of the ideas of others when designing. • Produce a plan and explain it to others. Consider how to present their product in an interesting way.	**Textiles-** 2D shape to 3D product (Pencil Case) • Start to generate ideas, considering the purposes for which they are designing- link with Mathematics. • Confidently make labelled drawings from different views showing specific features - back/front/additional detail. Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail. Identify the strengths and areas for development in their ideas and products. When planning, consider the views of others (including intended users) to improve their work. • Learn about key events and individuals have developed ground-breaking products. • When planning, explain their choice of materials and components according to function and aesthetic. • Take account of the ideas of others when designing. • Produce a plan and explain it to others. Consider how to present their product in an interesting way.
Year 5	**Mechanical Systems-** Pulleys or Gears (Viking Long Boat) • Start to generate, develop, model and communicate their ideas through discussion, annotated sketches, exploded diagrams and	**Textiles-** using CAD (I-Pad Case) **MS Paint.** • Start to generate, develop, model and communicate their ideas through discussion, annotated sketches, prototypes, pattern pieces and CAD - **MS Paint to develop their**	**Food-** Celebrating culture and **seasonality.** (Muffins) • Start to generate, develop, model and communicate their ideas through discussion, annotated sketches.

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	prototypes. • Begin to use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose. • With growing confidence apply a range of finishing techniques, including those from art and design • Draw up a specification for their design. • Use results of investigations, information sources, including ICT when developing design ideas. • With growing confidence select appropriate materials, tools and techniques. • Start to understand how much products cost to make, how sustainable and innovative they are and the impact products have beyond their intended purpose. • Produce a range of ideas after collecting information. • Produce a detailed step-by step plan. • Explain how their product will appeal to the user.	**ideas.** • Begin to use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose. • With growing confidence apply a range of finishing techniques, including those from art and design • Draw up a specification for their design. • Use results of investigations, information sources, including ICT when developing design ideas. • With growing confidence select appropriate materials, tools and techniques. Start to understand how much products cost to make, how sustainable and innovative they are and the impact products have beyond their intended purpose. • Produce a range of ideas using CAD after collecting information during the research phase. • Produce a detailed step-by step plan. • Explain how their product will appeal to the user.	• Begin to use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose. • Draw up a specification for their design. • Use results of investigations, information sources when developing design ideas. • With growing confidence select appropriate equipment and ingredients. • Start to understand how much products cost to make/buy, how sustainable and innovative they are and the impact products have beyond their intended purpose- **seasonal produce/cost/impact.** • Produce a range of ideas after collecting information. • Produce a detailed step-by step plan. • Explain how their product will appeal to the user.
Year 6	**Food-** Celebrating **culture** and seasonality. (Bread) • Generate, develop, model and communicate their ideas through discussion, annotated sketches. • Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose. Accurately apply a range of shaping techniques. • Draw up a specification for their design. • Plan the order of their work, choosing appropriate equipment, ingredients and techniques. • Suggest alternative methods of making it if the first attempts fail. • Identify the strengths and areas for development in their ideas and products. Know how much products cost to make, how sustainable and innovative they are and the impact products have beyond their intended	**Electrical systems-** More complex circuits and switches -include programming, control and monitoring.(Car Alarm) • Generate, develop, model and communicate their ideas through discussion, annotated sketches, exploded diagrams and prototypes. • Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose. Accurately apply a range of finishing techniques. . • Draw up a specification for their design- link with Mathematics and Science. • Plan the order of their work, choosing appropriate materials, tools and techniques. Suggest alternative methods of making it if the first attempts fail. • Identify the strengths and areas for development in their ideas and products. Know how much products cost to make, how sustainable and innovative they are and the impact products have beyond their intended	**Structures-** Frame structures. (Bird Hide) • Generate, develop, model and communicate their ideas through discussion, annotated sketches and prototypes. • Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose. Accurately apply a range of finishing techniques. . • Draw up a specification for their design- link with Mathematics and Science. • Plan the order of their work, choosing appropriate materials, tools and techniques. Suggest alternative methods of making it if the first attempts fail. • Identify the strengths and areas for development in their ideas and products. Know how much products cost to make, how sustainable and innovative they are and the impact products have beyond their intended

	purpose. • Use market research to inform plans. • Follow and refine their initial plan if necessary. • Show consideration to culture and society in a design • Explain how their product should be stored justifying with reasons. • Work within a given budget.	purpose. • Use market research to inform plans. • Follow and refine their initial plan if necessary. • Work within a given budget.	purpose. • Use market research to inform plans. • Follow and refine their initial plan if necessary. • Work within a given budget.

- **Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users**

Design and Technology Skills Progression (Overview)

Year Group	**On-going throughout the year**		
Nursery	• Select materials from a limited range. • Select and name the tools needed to work the materials e.g. scissors for paper • Make simple models. • Use a hole punch. • Explore ideas by rearranging materials. • Safely use tools. • Manipulate and join different materials. • Create a 3D model using materials. • Make models with construction materials. • Build for a purpose.		
Reception	• Carefully select materials from a wider range. • Select and name a variety of tools. • Make models. • Use large scale loose parts to create models such as vehicles and houses to support play. • Explore ideas by rearranging materials. • Safely use a wider range of tools. • Manipulate and join different materials. • Create a 3D model using materials. • Adapt their models to achieve a desired outcome. • Begin to use different techniques. • Improve their models. • Construct with a purpose in mind.		
Year 1	**Cooking and nutrition-** Preparing fruit. (Fruit Kebab)	**Structures-**	**Mechanisms-**

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	• Begin to make their design using appropriate techniques. • Begin to use simple finishing techniques to improve the appearance of their product. Select ingredients and equipment to make their product. • Work safely and hygienically.	Free Standing structures . (3D House) • Begin to make their design using appropriate techniques. • Begin to build structures, exploring how they can be made stronger, stiffer and more stable. • With help measure, mark out, cut and shape a range of materials. • Explore using tools e.g. scissors safely. • Begin to assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape. • Begin to use simple finishing techniques to improve the appearance of their product. • Attempt to make their model stronger if it needs to be. • Select appropriate resources and tools for their building projects. • Work Safely.	Sliders and levers. (Moving Storyboard) • Begin to make their design using appropriate techniques. • Begin to 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. • With help measure, mark out, cut and shape a range of materials. • Explore using tools e.g. scissors and a hole punch safely. • Begin to assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape. • Begin to use simple finishing techniques to improve the appearance of their product. Make a product which moves. • Use simple paper templates. • Attempt to make their model stronger if it needs to be. • Select appropriate resources and tools for their building projects. • Work Safely.
Year 2	**Mechanisms-** Wheels and Axles. (Moving Bus) • Begin to select tools and materials; use correct vocabulary to name and describe them. • Build structures, exploring how they can be made stronger, stiffer and more stable. With help measure, cut and score with some accuracy. • Learn to use equipment safely and appropriately. • Start to assemble, join and combine materials in order to make a product. • Start to choose and use appropriate finishing techniques based on own ideas. Select the best tools and materials. • Make mockups using appropriate materials. • Be able to join things (materials/ components) together in different ways Attach features to a vehicle (e.g. an axle and wheels). • Work safely.	**Cooking and nutrition-** Preparing vegetables. (Pita Pizzas) • Begin to select equipment and ingredients; use correct vocabulary to name and describe them. • Learn to use equipment safely and appropriately. • Start to assemble and combine ingredients to make a product. • Work safely and hygienically.	**Textiles-** Templates and joining techniques. (puppet) • Begin to select tools and materials; use correct vocabulary to name and describe them. • With help measure, cut and score with some accuracy. • Learn to use hand tools safely and appropriately. • Start to assemble, join and combine materials in order to make a product. Demonstrate how to cut, shape and join fabric to make a simple product. • Use basic sewing techniques. • Start to choose and use appropriate finishing techniques based on own ideas. Select the best tools and materials. • Be able to join things (materials/ components) together in different ways. • Join fabric using a running stitch, glue and tape. • Make mockups of their ideas using fabric.

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			• Make templates and mockups of their ideas in fabric. • Work safely.
Year 3	**Cooking and Nutrition** Healthy and varied diet (Vegetable Soup) • Select a wider range of tools and techniques for making their product i.e. construction materials and kits, textiles, food ingredients, mechanical components. • Explain their choice of tools and equipment in relation to the skills and techniques they will be using. • Start to work safely and accurately with a range of simple tools. • Start to think about their ideas as they make progress and be willing to change things if this helps them to improve their work. • Attempt to make sure that their product looks attractive. • Select the most appropriate tools and techniques to use for a given task. • Work safely.	**Mechanical systems-** Levers and linkages. (Egyptian Shaduf) • Select a wider range of tools and techniques for making their product i.e. construction materials and kits, textiles, food ingredients, mechanical components. • Explain their choice of tools and equipment in relation to the skills and techniques they will be using. • Start to understand that mechanical systems such as levers and linkages or pneumatic systems create movement. Measure, mark out, cut, score and assemble components with more accuracy. • Start to work safely and accurately with a range of simple tools. • Start to think about their ideas as they make progress and be willing to change things if this helps them to improve their work. • Start to measure, tape or pin, cut and join fabric with some accuracy. • Use equipment safely • Attempt to make sure that their product looks attractive • Make choices of material both for its appearance and qualities • Select the most appropriate tools and techniques to use for a given task. • Work accurately to make cuts and holes – e.g. to measure and then use equipment to cut. • Try alternative ways of fixing something if the first attempt is not successful. • Create and use simple gears, pulleys, levers and linkages. • Work safely.	**Shell Structures-** using CAD (Classroom Storage) **Tinkercad** • Select a wider range of tools and techniques for making their product i.e. construction materials and kits, textiles, food ingredients, mechanical components. • Explain their choice of tools and equipment in relation to the skills and techniques they will be using. • Measure, mark out, cut, score and assemble components with more accuracy. • Start to work safely and accurately with a range of simple tools. • Start to think about their ideas as they make progress and be willing to change things if this helps them to improve their work. • Start to measure, tape or pin, cut and join fabric with some accuracy. • Use equipment safely. • Attempt to make sure that their product looks attractive. • Make choices of material both for its appearance and qualities. • Select the most appropriate tools and techniques to use for a given task. • Make a product which uses both electrical and mechanical components. • Work accurately to make cuts and holes – e.g. to measure and then use equipment to cut. • Try alternative ways of fixing something if the first attempt is not successful. • Work safely.
Year 4	**Cooking and nutrition-** Healthy and varied diet. (Pasta Salad) • Select a wider range of tools and techniques for making their product safely. • Begin to use finishing techniques based on appearance. • Weigh carefully and show initiative to check so as not to make mistakes.	**Electrical systems -** (Night Light) • Select a wider range of tools and techniques for making their product safely. Know how to measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques. • Start to join and combine materials and components accurately in temporary and	**Textiles-** 2D shape to 3D product (Pencil Case) • Select a wider range of tools and techniques for making their product safely. Know how to measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques. • Start to join and combine materials and

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	• Persevere with their product even though their original idea might not have worked. Use a simple pattern to create a functional product. • Work safely and hygienically.	permanent ways. • Understand how more complex electrical circuits and components can be used to create functional products. • different stitches, to weave and knit. • Begin to use finishing techniques to strengthen and improve the appearance of their product using a range of equipment. • Measure carefully and show initiative to check so as not to make mistakes. • Persevere with their product even though their original idea might not have worked. • Work safely.	components accurately in temporary and permanent ways. • Now sew using running or back stitch. • Demonstrate how to measure, tape or pin, cut and join fabric with some accuracy. Begin to use finishing techniques to strengthen and improve the appearance of their product using a range of equipment. • Measure carefully and show initiative to check so as not to make mistakes. • Make and use a paper template. • Persevere with their product even though their original idea might not have worked. • Work safely.
Year 5	**Mechanical Systems-** Pulleys or Gears (Viking Long Boat) • Select appropriate materials, tools and techniques e.g. 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. Understand how mechanical systems such as cams or pulleys or gears create movement. • Begin to measure and mark out more accurately. • Demonstrate how to use skills in using different tools and equipment safely and accurately. • With growing confidence cut and join with accuracy to ensure a good-quality finish to the product. • Use finishing techniques to strengthen and improve the appearance of their product Use a range of tools and equipment expertly. • Make up a prototype first. • Demonstrate motivation/perseverance to refine and improve their products. • Create a 3D product using a range of materials. • Work safely.	**Textiles-** using CAD (I-Pad Case) **MS Paint.** • Select appropriate materials, tools and techniques e.g. cutting, shaping, joining and finishing, accurately. • Now sew using running, back stitch or over sew stitch. • 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. • Demonstrate how to use skills in using different tools and equipment safely and accurately. • With growing confidence cut and join with accuracy to ensure a good-quality finish to the product. • Measure accurately. • Use finishing techniques to strengthen and improve the appearance of their product. • Use a range of tools and equipment expertly. • Make up a prototype first. • Measure accurately to ensure that everything is precise. • Make and use a complex paper template. • Demonstrate motivation/perseverance to refine and improve their products. • Work safely.	**Food-** Celebrating culture and **seasonality.** (Muffins) • Select appropriate materials, tools and techniques e.g. 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. • Begin to measure and mark out more accurately. • Demonstrate how to use skills in using different tools and equipment safely and accurately. • Weigh and measure accurately (dry ingredients, and liquids). • Use finishing techniques to improve the appearance of their product. • Use a range of tools and equipment expertly. • Measurement accurately to ensure that everything is precise. • Demonstrate motivation/perseverance to refine and improve their products. • Work safely.

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Year 6	**Food-** Celebrating **culture** and seasonality. (Bread) • Confidently select appropriate tools, materials, components and techniques and use them. • Use tools safely and accurately. • Assemble components to appetising products. • Aim to make and to achieve a quality product. • Demonstrate when making modifications as they go along. • Work safely and hygienically.	**Electrical systems-** More complex circuits and switches -include programming, control and monitoring.(Car Alarm) • Confidently select appropriate tools, materials, components and techniques and use them. • Use tools safely and accurately. • Assemble components to make working models. • Aim to make and to achieve a quality product. • Demonstrate when making modifications as they go along. • Construct products using permanent joining techniques. • Know how more complex electrical circuits and components can be used to create functional products. • Know how to reinforce and strengthen a 3D framework. • Understand that mechanical and electrical systems have an input, process and output. Use finishing techniques to strengthen and improve the appearance of their product. • Work safely.	**Structures-** Frame structures. (Bird Hide) • Confidently select appropriate tools, materials, components and techniques and use them. • Use tools safely and accurately. • Assemble components to make working models. • Aim to make and to achieve a quality product. Demonstrate when making modifications as they go along. • Construct products using permanent joining techniques. • Know how to reinforce and strengthen a 3D framework. • Work safely.

- **Critique, evaluate and test their ideas and products and the work of others**

How and what children will analyse and the language to be used.

Year Group	**Project 1**	**Project 2**	**Project 3**
Nursery	• Talk about what they like about their design and what they might change.		
Reception	• Explain how they created something to their peers including why they chose a particular technique or material and why it is suitable. • Work in a group to create a model.		
Year 1	**Cooking and nutrition-** Preparing fruit. (Fruit Kebab) • Start to evaluate their product by discussing how well it works in relation to the purpose (design criteria). • When looking at existing products explain what they like and dislike about the Products	**Structures-** Free Standing structures . (3D House) • Start to evaluate their product by discussing how well it works in relation to the purpose (design criteria). • When looking at existing products explain	**Mechanisms-** Sliders and levers. (Moving Storyboard) • Start to evaluate their product by discussing how well it works in relation to the purpose (design criteria). • When looking at existing products explain

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	and why. • Begin to evaluate their products as they are developing, identifying strengths and possible changes they might make next time.	what they like and dislike about the Products and why. • Begin to evaluate their products as they are developing, identifying strengths and possible changes they might make next time.	what they like and dislike about the Products and why. • Begin to evaluate their products as they are developing, identifying strengths and possible changes they might make next time.
Year 2	**Mechanisms-** Wheels and Axles. (Moving Bus) • Evaluate their work against their design criteria. • Look at a range of existing products and explain what they like and dislike about the products and why. • Start to evaluate their products as they are developing, identifying what went well and possible changes they might make next time. • With confidence talk about their ideas	**Cooking and nutrition-** Preparing vegetables. (Pita Pizzas) • Evaluate their work against their design criteria. • Look at a range of existing products and explain what they like and dislike about the products and why. • Start to evaluate their products as they are developing, identifying what went well and possible changes they might make next time. • With confidence talk about their ideas	**Textiles-** Templates and joining techniques. (puppet) • Evaluate their work against their design criteria. • Look at a range of existing products and explain what they like and dislike about the products and why. • Start to evaluate their products as they are developing, identifying what went well and possible changes they might make next time. • With confidence talk about their ideas
Year 3	**Cooking and Nutrition** Healthy and varied diet (Vegetable Soup) • Start to evaluate their product against original design criteria e.g. how well it meets its intended purpose. • Suggest some improvements and say what was good and not so good about their original design. • Begin to disassemble and evaluate familiar products and consider the views of others to improve them. • Begin to evaluate how the key designs of individuals in design and technology have helped shape the world. (Jamie Oliver)	**Mechanical systems-** Levers and linkages. (Egyptian Shaduf) • Start to evaluate their product against original design criteria e.g. how well it meets its intended purpose. • Suggest some improvements and say what was good and not so good about their original design. • Begin to disassemble and evaluate familiar products and consider the views of others to improve them. • Begin to evaluate how the key designs of individuals in design and technology have helped shape the world.	**Shell Structures-** using CAD (Classroom Storage) **Tinkercad** • Start to evaluate their product against original design criteria e.g. how well it meets its intended purpose. • Suggest some improvements and say what was good and not so good about their original design. • Begin to disassemble and evaluate familiar products and consider the views of others to improve them. • Begin to evaluate how the key designs of individuals in design and technology have helped shape the world. (Jørn Utzon)
Year 4	**Cooking and nutrition-** Healthy and varied diet. (Pasta Salad) • Start to evaluate their product against original design criteria e.g. how well it meets its intended purpose. • Suggest some improvements and say what was good and not so good about their original design. • Begin to evaluate familiar products/ingredients and consider the views	**Electrical systems -** (Night Light) • Start to evaluate their product against original design criteria e.g. how well it meets its intended purpose. • Suggest some improvements and say what was good and not so good about their original design. • Begin to evaluate familiar products/ingredients and consider the views of others to improve them.	**Textiles-** 2D shape to 3D product (Pencil Case) • Start to evaluate their product against original design criteria e.g. how well it meets its intended purpose. • Suggest some improvements and say what was good and not so good about their original design. • Begin to evaluate familiar products/ingredients and consider the views

	of others to improve them.		of others to improve them.
Year 5	**Mechanical Systems-** Pulleys or Gears (Viking Long Boat) • Evaluate their work both during and at the end of the unit. • Evaluate their products carrying out appropriate tests. • Be able to evaluate familiar products and consider the views of others to improve them. • Suggest some improvements and say what was good and not so good about their original design • Begin to explain how they can improve their original designs • Evaluate their product, thinking of both appearance and the way it works.	**Textiles-** using CAD (I-Pad Case) **MS Paint.** • Evaluate their work both during and at the end of the unit. • Evaluate their products carrying out appropriate tests. • Be able to evaluate familiar products and consider the views of others to improve them. • Suggest some improvements and say what was good and not so good about their original design • Begin to explain how they can improve their original designs • Evaluate their product, thinking of both appearance and the way it works.	**Food-** Celebrating culture and **seasonality.** (Muffins) • Evaluate their work both during and at the end of the unit. • Evaluate their products carrying out appropriate tests. • Be able to evaluate familiar products and consider the views of others to improve them. • Suggest some improvements and say what was good and not so good about their original design • Begin to explain how they can improve their original designs • Evaluate their product, thinking of both appearance and the way it tastes.
Year 6	**Food-** Celebrating **culture** and seasonality. (Bread) • Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests. • Evaluate their work both during and at the end of the unit. • Record their evaluations using drawings with labels. • Evaluate against their original criteria and suggest ways that their product could be improved. • Test and evaluate their final product. Evaluate if their product meets all design criteria Justify why they selected specific ingredients.	**Electrical systems-** More complex circuits and switches -include programming, control and monitoring.(Car Alarm) • Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests. • Evaluate their work both during and at the end of the unit. • Record their evaluations using drawings with labels. • Evaluate against their original criteria and suggest ways that their product could be improved. • Test and evaluate their final product. Evaluate if their product meets all design criteria Justify why they selected specific materials.	**Structures-** Frame structures. (Bird Hide) • Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests. • Evaluate their work both during and at the end of the unit. • Record their evaluations using drawings with labels. • Evaluate against their original criteria and suggest ways that their product could be improved. • Test and evaluate their final product. Evaluate if their product meets all design criteria Justify why they selected specific materials.

- **Understand and apply the principles of nutrition and learn how to cook.**

Year Group	Project 1	Project 2	Project 3

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Nursery	**Cooking and nutrition -** gingerbread Know some ingredients Know how to mix Describe taste		
Reception	**Cooking and nutrition -** bread Know some ingredients Know how to mix and stir Describe changes and taste		
Year 1	**Cooking and nutrition-** Preparing fruit. (Fruit Kebab) • Begin to understand that all food comes from plants or animals. • Explore common food sources (e.g. from food or animals) • Start to understand how to name and sort foods into the five groups in (e.g. could use the 'The Eat well plate') Know that everyone should eat at least five portions of fruit and vegetables every day. • Know how to **prepare simple dishes** safely and hygienically, **without using a heat source.** Know how to use techniques such as **cutting and peeling**. • Measure and weigh food items using non-standard measures (e.g. spoons and cups)		
Year 2		**Cooking and nutrition-** Preparing vegetables. (Pita Pizzas) • Understand that all food comes from plants or animals. • Develop understanding of where different foods come from (e.g. foods which are farmed, grown elsewhere (e.g. home) or caught) and also food from native to different countries. • Understand how to name and sort foods into the five groups in (e.g. could use the 'The Eat well plate') Know that everyone should eat at least five portions of fruit and vegetables every day. • Recognise the need for a variety of food in a diet • Demonstrate how to prepare simple dishes safely and hygienically, without **using a heat source**.	

		• Demonstrate how to use techniques such as **peeling, slicing and grating**. • Cooking Skill: Grilling.	
Year 3	**Cooking and Nutrition** Healthy and varied diet (Vegetable Soup) Start to know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world. Understand how to prepare and cook a variety of dishes **including experience of using a heat source.** Begin to understand how to use a range of techniques such as **peeling, chopping, combining.** Know how a healthy diet is made up from a variety and balance of different food and drink. Begin to know that to be active and healthy, food and drink are needed to provide energy for the body (and begin to distinguish healthy high energy foods) Be able to identify foods which come from the UK and other countries in the world. • Cooking Skill: simmering.		
Year 4	**Cooking and nutrition-** Healthy and varied diet. (Pasta Salad) • Understand that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world. • Understand how to prepare and cook a variety of predominantly savoury dishes including **experience of using a heat source.** Know how to use a range of techniques such as peeling, chopping, slicing, grating and mixing. • Measure and weigh ingredients appropriately. • Explain why a healthy diet is important. • Know that to be active and healthy, food and drink are needed to provide energy for the body and identify healthy high energy foods) Understand what to do to be hygienic and safe. • Become familiar with some of the **processes** that foods go through to **preserve them (pasta/tuna/olives**)/**make them more appealing.** • Cooking Skill: boiling. .		

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Year 5			**Food-** Celebrating culture and **seasonality.** (Muffins) ● Begin to explain how food is grown, reared and caught. ● Begin to understand that **seasons** may affect the food available. ● Understand how food is processed into ingredients that can be eaten or used in cooking. ● Know how to prepare and cook a variety of predominantly savoury dishes including the use of a heat source ● Demonstrate increasing confidence in how to use a range of techniques such as **peeling, chopping, slicing, grating, mixing, spreading and baking.** ● Begin to understand that different food and drink contain different substances (nutrients, water and fibre) that are needed for health Explain what times of year particular foods are eaten in ● Describe what to do to be hygienic and safe. ● Use appropriate tools and equipment, weighing and measuring with scales. ● Cooking Skill: baking.
Year 6	Celebrating **culture** and seasonality. (Bread) ● Explain how ingredients were grown, reared and caught. Understand that seasons may affect the food available. Explain how food is processed into ingredients that can be eaten or used in cooking. Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including the use of a heat source. ● Understand how to use a range of techniques such as **peeling, chopping, slicing, grating, mixing, spreading, kneading and baking and choose which ones to use independently.** ● Know different food and drinks contain different substances (nutrients, water and fibre) that are needed for health. Use appropriate tools and equipment, weighing and measuring with scales. ● Plan a healthy and **affordable** dish. ● Cooking Skill: baking.		

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National Curriculum Skills / Knowledge Progression - KS1

Year Group	Design	Make	Evaluate	Technical Knowledge	Cooking and Nutrition
Nursery	Design a product. Talk about their ideas.	Select from and use basic materials and equipment. Select from and start to use different materials.	Talk about what they like about their design and what they might change.	Build structures.	Know and can identify some healthy foods.
Reception	Design a product. Think about who might use it. Talk about their ideas/explain to a peer.	Select from and use a wider range of materials and equipment. Select from and start to use a wider variety of different materials.	Explain how they created something to their peers including why they chose a particular technique or material and why it is suitable.	Build structures, thinking about how they can be made stronger.	Know and can identify healthy foods. Begin to understand where food comes from.
Year 1 and 2	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.	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	Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria.	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..	Use the basic principles of a healthy and varied diet to prepare dishes. Understand where food comes from.

KS2

Year Group	Design	Make	Evaluate	Technical Knowledge	Cooking and Nutrition

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Year 3 and 4	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.	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	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.	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, 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.	Understand and apply the principles of a healthy and varied diet. Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.
Year 5 and 6	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.	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	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.	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.	Understand and apply the principles of a healthy and varied diet. Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.