The Meadows Primary Academy

Design Technology

Design	A plan or drawing produced to show the look and function or workings of a building, garment, or other object before it is made.
Nutrition	The nourishment or energy that is obtained from food consumed or the process of consuming the proper amount of nourishment and energy. An example of nutrition is the nutrients found in fruits and vegetables. An example of nutrition is eating a healthy diet.
Technology	Technology is science or knowledge put into practical use to solve problems or invent useful tools.
Data	Data is "known facts". It especially refers to numbers, but can also mean words, sounds, and images too. Originally, data is the plural of the Latin word datum which means "give".
Evaluate	To evaluate is the act or the result of evaluating a situation that requires careful consideration to determine the value, nature, character, or quality of something.
Functionality	The quality or state of being functional. A design that is admired both for its beauty and for its functionality: the set of functions or capabilities associated with something.
Innovation	The process of making (something) new or doing something in a new way. Innovation also has to include the concept of improvement; to innovate is not just to do something differently, but to do or make something better.

The Meadows Primary Academy - Design and Technology progression through EYFS
EAD: Creating with Materials & Being Imaginative and Expressive

Playing & Exploring - Engagement	Active Learning - Motivation	Creating & Thinking Critically - Thinking
• Finding out & exploring • Playing with what they know • Being willing to 'have a go'	• Being involved & concentrating • Keep on trying • Enjoying achieving what they set out to do	• Having their own ideas (creative thinking) • Making links (building theories) • Working with ideas (critical thinking)

ELG
- 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

Focus	Designing	Making	Evaluating	Technical Skills	Food Technology	Vocabulary- To be used daily.
Nursery Skills	• Develop own ideas & decide which materials to use to express them	• Use various construction materials, e.g. joining pieces, stacking vertically and horizontally, balancing, making enclosures and creating spaces • Use available resources to create props or creates imaginary ones to support play	• Notice what other children & adults do, mirroring what is observed, adding variations & then doing it spontaneously	• Develop new skills & techniques • Use tools for a purpose	• Talk about the differences between materials & changes they notice • Make healthy choices	Like/ dislike Use, cut, snip, press, fold, join, fix, glue, stick, bumpy, smooth, shiny, hard, soft, rough, fruit, vegetables, healthy, unhealthy, different.
Nursery Knowledge	Autumn 1 Ourselves	Autumn 2 Celebrations	Spring 1 Moving on up	Spring 2 What a wonderful world	Summer 1 What's the story	Summer 2 Rescue me
	•Can make snips in paper using a two-handed scissor grip. •Can use glue to join pieces	•Develop their own ideas and then decide which materials to use to express them •Can use a range of tools- rolling pin, cutters, scissors, hole punch, Sellotape dispenser independently. •Can explain what healthy and unhealthy means. (moved over)	•Can develop ideas incl. representation of vehicles, buildings, enclosures, areas etc using a variety of materials and scale	•Can use a range of materials to join, glue, string, cotton, Sellotape Can use a variety of different materials to create a minibeast hotel	•Can make own designs from junk modelling materials	•Can use a range of tools- rolling pin, cutters, scissors, hole punch, Sellotape dispenser independently and with accuracy. •Can use a variety of different materials to create a variety of homes and other structures such as fire engines, ambulances, library vans, police cars etc.

Children to be exposed to key vocabulary daily in provision. High quality resources will be provided for daily accessibility. Playdough/ Malleable/Art/building/small world and outdoor provisions will provide a wealth of opportunity. Resources will be enhanced and developed as children develop their skill set.

Experiences	SMSC	British Values	The Meadows Values
Colouring competition – fine motor skill development. Chinese new year – link with different foods eaten during celebrations.	Moral - children are taught how to look after their environment during activities	Respect and tolerance is discussed when children notice what other people do and mirror it or chose to do differently	Resilience is taught when using scissors. Respect is taught by promoting caring for their environment.

The Meadows Primary Academy - Design and Technology progression through EYFS
EAD: Creating with Materials & Being Imaginative and Expressive

Playing & Exploring - Engagement	Active Learning - Motivation	Creating & Thinking Critically - Thinking
• Finding out & exploring • Playing with what they know • Being willing to 'have a go'	• Being involved & concentrating • Keep on trying • Enjoying achieving what they set out to do	• Having their own ideas (creative thinking) • Making links (building theories) • Working with ideas (critical thinking)

ELG
- 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

Focus	Designing	Making	Evaluating	Technical Skills	Food Technology	Vocabulary- To be used daily.
Reception Skills	• Develop own ideas through experimentation with diverse materials to express & communicate their discoveries & understanding • Create collaboratively sharing ideas, resources & skills	• Use increasing knowledge & understanding of tools & materials to explore their interests & enquiries & develop their thinking • Create representations both imaginary & real-life ideas, events, people & objects	• Express & communicates working theories, feelings & understandings • Responds imaginatively to art works & objects • Return to & build on previous learning, refining ideas & developing their ability to represent them • Discuss problems & how they might be solved	• Use different techniques for joining materials • Use tools independently, with care & precision	• Look closely at similarities, differences, patterns & change • Know & talk about the different factors that support their overall health & well-being	Cutting, measure, folding, joining, gluing, tearing, decorate, printing, tools, strong, shape, materials, textiles, wheels, equipment, like, dislike, improve, better, cutting, plants, animals, farming, foods.

Reception Knowledge	**Autumn 1** "Who am I?"	**Autumn 2** "Who am I?"	**Spring 1** "Food to fork?"	**Spring 2** "Food to fork?"	**Summer 1** "Where will we go now? Water, water everywhere"	**Summer 2** "Where will we go now? Water, water everywhere"
	• Brush own teeth and talk about the importance of good oral health. • Begin to talk about the effect of exercise and food on their health. • Use colour and materials to express how they are feeling through own	• Work with others to make structures e.g., building a house/home/school, Church, Mandir.	• Create representations using different mediums and compare them.	• Use an increasing range of tools such as building tools and gardening tools with accuracy. • 'From food to fork'. Understand where food comes from and experience growing their own vegetables, harvesting,	• Use an increasing range of small construction materials. • Draw designs for the things that they build and label each element	• Use a range of materials to make a moving puppet. • Verbally evaluate their work and explain what is good and one thing that could make it better.

	creations using a variety of textures.			preparing, and eating.		
Food			Mechanisms		Structures	
Children to be exposed to key vocabulary daily in provision. High quality resources will be provided for daily accessibility. Playdough/ Malleable/Art/building/small world and outdoor provisions will provide a wealth of opportunity. Resources will be enhanced and developed as children develop their skill set.						

Experiences	SMSC	British Values	The Meadows Values
• Colouring competition – fine motor skill development. • Chinese new year – link with different foods eaten during celebrations. • Easter bonnet making – joining and cutting skills. Reading breakfast – experiencing different foods with family, use of cutlery.	• Cultural – children are exposed to a range of foods linked with celebrations. They are also taught about where food comes from. Social – children are taught about different buildings in their local area when building houses, shops and schools.	• Individual liberty is taught when children begin to express their feelings and understanding. Respect is taught when children are working collaboratively together.	• Team Work is taught when the children are working as part of a team. .

KS1 Cycle A: Design and Technology skills progression	
KS1: POS • Use the basic principles of a healthy and varied diet to prepare dishes. • To understand where food comes from. • Design purposeful, functional, appealing products for themselves and other users based on design criteria. • 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. • Explore and use mechanisms [for example levers, sliders, wheels and axles], in their products. • 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 and prototypes. • Select from tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] accurately. • Investigate and analyse a range of existing products. • Evaluate their ideas and products against their own design criteria.	**Design** • Design a functional and appealing product for a chosen user and purpose based on simple design criteria. • Generate initial ideas and simple design criteria through talking and using own experiences. • Generate ideas based on simple design criteria and their own experiences, explaining what they could make. • Generate initial ideas and design criteria through investigating a variety of fruit and vegetables. • Communicate these ideas through talk and drawings. • Generate, develop, model and communicate their ideas as appropriate through talking, drawing, templates, mock-ups and information and communication technology.
Make • Use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely. • Select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product. • Select from and use a range of tools and equipment to perform practical tasks such as marking out, cutting, joining and finishing. • Plan by suggesting what to do next. • Select from and use textiles according to their characteristics. • Select from and use a range of tools and equipment to perform practical tasks such as cutting and joining to allow movement and finishing.	**Evaluate** • Taste and evaluate a range of fruit and vegetables to determine the intended users' preference. • Explore a range of existing books and everyday products that use simple sliders and levers. • Evaluate ideas and finished products against design criteria, including intended user and purpose. • Explore a range of existing freestanding structures in the school and local environment e.g. everyday products and buildings. • Evaluate their ideas throughout and their final products against original design criteria.

• Use simple finishing techniques suitable for the product they are creating. • Select new and reclaimed materials and construction kits to build their structures. • Select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics.	

Technical Knowledge

- Understand where a range of fruit and vegetables come from e.g. farmed or grown at home.
- Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of the Eatwell plate.
- Know and use technical and sensory vocabulary relevant to the project.
- Explore and use sliders and levers.
- Understand that different mechanisms produce different types of movement.
- Know how to make freestanding structures stronger, stiffer and more stable.

KS1 Cycle A – End points	
Mechanisms – Sliders and Levers	• Explore and use sliders and levers. • Understand that different mechanisms produce different types of movement. • Know how to make freestanding structures stronger, stiffer and more stable. • Know and use technical and sensory vocabulary relevant to the project. **Idea: To create a moving picture that can be manipulated by a Nursery pupil, based on a chosen whole-class theme (e.g. robots, seaside…)**
Food – Preparing fruit and vegetables	• Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of 'The eatwell plate'. • Know and use technical and sensory vocabulary relevant to the project. Ideas: Fruit Kebab, veggie snacks, sandwich wrap.

Experiences	SMSC	British Values	The Meadows Values
Taste the difference food and vegetables	Moral – during our animal enclosures unit we discuss the positives and drawbacks of having animals in zoos. Cultural – during the autumn unit of sliders and levers we make Christmas/winter cards and discuss respect and tolerance for those children who do not celebrate Christmas	Rule of law – during the animal enclosures unit we discuss the rules for keeping animals both at home and at zoos.	Team Work is taught when the children are working as part of a team. Respect and Kindness listening to others viewpoints. Respect– the environment around you Team Work: Working as a team during experiments

KS1 Cycle B: Design and Technology skills progression	
KS1: POS • Use the basic principles of a healthy and varied diet to prepare dishes. • To understand where food comes from. • Design purposeful, functional, appealing products for themselves and other users based on design criteria. • 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, ingredients, according to their characteristics. • Explore and evaluate a range of existing products. • Explore and use mechanisms [for example levers, sliders, wheels and axles], in their products. • 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 and prototypes. • Select from tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] accurately. • Investigate and analyse a range of existing products. • Evaluate their ideas and products against their own design criteria.	**Design** • Design a functional and appealing product for a chosen user and purpose based on simple design criteria. • Generate initial ideas and simple design criteria through talking and using own experiences. • Generate ideas based on simple design criteria and their own experiences, explaining what they could make. • Generate initial ideas and design criteria through investigating a variety of fruit and vegetables. • Communicate these ideas through talk and drawings. • Generate, develop, model and communicate their ideas as appropriate through talking, drawing, templates, mock-ups and information and communication technology.
Make • Use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely. • Select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product. • Select from and use a range of tools and equipment to perform practical tasks such as marking out, cutting, joining and finishing. • Plan by suggesting what to do next. • Select from and use textiles according to their characteristics.	**Evaluate** • Taste and evaluate a range of fruit and vegetables to determine the intended user's preferences. • Evaluate ideas and finished products against design criteria, including intended user and purpose. • Explore and evaluate a range of existing textile products relevant to the project being undertaken. • Evaluate their ideas throughout and their final products against original design criteria. • Explore and evaluate a range of products with wheels and axles

• Select from and use a range of tools and equipment to perform practical tasks such as cutting and joining to allow movement and finishing. • Use simple finishing techniques suitable for the product they are creating. • Select new and reclaimed materials and construction kits to build their structures. • Select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics.	
Technical Knowledge • Understand where a range of fruit and vegetables come from e.g. farmed or grown at home. • Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of the Eatwell plate. • Know and use technical and sensory vocabulary relevant to the project. • Explore and use wheels, axles and axle holders. • Distinguish between fixed and freely moving axles. • Understand that different mechanisms produce different types of movement.	

KS1 Cycle B – End points	
Mechanisms- Wheels and Axels	• Know and use technical and sensory vocabulary relevant to the project • Explore and use wheels, axles and axle holders. • Distinguish between fixed and freely moving axles. • Understand that different mechanisms produce different types of movement. •
Food – Preparing fruit and vegetables	• Understand where a range of fruit and vegetables come from e.g. farmed or grown at home. • Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of 'The eatwell plate'. • Know and use technical vocabulary relevant to the project.

Experiences	SMSC	British Values	The Meadows Values
Taste the difference food and vegetables	Social – we discuss the different uses of vehicles and how they support and impact the local and wider community.	During our food topic we teach respect, tolerance and individual liberty when we talk about different food choices and diets.	Resilience – during the entire making process, we discuss keeping on trying and never giving up even if the task gets tricky. Aspiration – during the evaluation stages we discuss being honest with ourselves (self-

			reflection) and others to ensure we can improve ourselves and our work.

LKS2 Year 3: Design and Technology skills progression

KS2- POS

- To 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
- To understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.
- To 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.
- To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces
- 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, 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.
- To 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
- To understand and use mechanical systems in their products.

Design

- Gather information about needs and wants, and develop design criteria to inform the design of products that are fit for purpose, aimed at particular individuals or groups.
- Explore a range of initial ideas, and make design decisions to develop a final product linked to user and purpose.
- Develop, model and communicate ideas through talking, drawing, templates, mock-ups and prototypes and, where appropriate, computer aided design.
- Generate realistic ideas through discussion and design criteria for an appealing, functional product fit for purpose and specific user/s.
- Develop ideas through the analysis of existing products and use annotated sketches and prototypes to model and communicate ideas.
- Produce annotated sketches, prototypes, final product sketches and pattern pieces
- Generate, develop and model innovative ideas, through discussion, prototypes and annotated sketches
- Generate innovative ideas through research and discussion with peers and adults to develop a design brief and criteria for a design specification.

Make

- Order the main stages of making.
- Select from and use finishing techniques suitable for the product they are creating.
- Plan the main stages of a recipe, listing ingredients, utensils and equipment.

Evaluate

- Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work.
- Compare the final product to the original design specification.
- Take into account others' views.

• Select and use appropriate utensils and equipment to prepare and combine ingredients. • Select from a range of ingredients to make appropriate food products, thinking about sensory characteristics. • Select and use appropriate tools to measure, mark out, cut, score, shape and assemble with some accuracy. • Explain their choice of materials according to functional properties and aesthetic qualities. • Use finishing techniques suitable for the product they are creating. • Select from and use appropriate tools with some accuracy to cut and join materials and components • Select from and use materials and components, including construction materials according to their functional properties • Select and use a range of appropriate tools with some accuracy e.g. cutting, joining and finishing.	• Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. • Investigate famous manufacturing and engineering companies relevant to the project. • Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. • Evaluate the final product with reference back to the design brief and design specification, taking into account the views of others when identifying improvements.
Technical Knowledge • Understand and use lever and linkage mechanisms. • Distinguish between fixed and loose pivots. • Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes. • Know and use technical vocabulary relevant to the project.	• Know and use relevant technical and sensory vocabulary appropriately. • Know how to strengthen, stiffen and reinforce existing fabrics. • Understand how to securely join two pieces of fabric together. • Understand the need for patterns and seam allowances.

LKS2 Year 3 – End points	
Food Technology	• Understand the main stages of a recipe, list ingredients, utensils and equipment. • Can use the appropriate utensils and equipment to prepare and combine ingredients. • Select from a range of ingredients to make appropriate food products, thinking about sensory characteristics
Shell Structures	• Develop and use knowledge of how to construct strong, stiff shell structures. • Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes. • Know and use technical vocabulary relevant to the project.

Experiences	SMSC	British Values	The Meadows Values

Taste different seasoning and foods originated in Italy	Cultural – during the textiles unit different fabric patterns are discussed as well as their origin	Individual liberty – children are encouraged to make their products different and unique.	Resilience – during the entire making process, we discuss keeping on trying and never giving up even if the task gets tricky. Aspiration – during the evaluation stages we discuss being honest with ourselves (self-reflection) and others to ensure we can improve ourselves and our work.

LKS2 Year 4: Design and Technology skills progression

KS2- POS

- To 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
- To understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.
- To 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.
- To 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 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.
- To 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
- To understand and use mechanical systems in their products.
- To understand and use electrical systems in their products.
- Apply their understanding of computing to program, monitor and control their products.

Design

- Gather information about needs and wants, and develop design criteria to inform the design of products that are fit for purpose, aimed at particular individuals or groups.
- Explore a range of initial ideas, and make design decisions to develop a final product linked to user and purpose.
- Develop, model and communicate ideas through talking, drawing, templates, mock-ups and prototypes and, where appropriate, computer aided design.
- Generate realistic ideas through discussion and design criteria for an appealing, functional product fit for purpose and specific user/s.
- Develop ideas through the analysis of existing products and use annotated sketches and prototypes to model and communicate ideas.
- Produce annotated sketches, prototypes, final product sketches and pattern pieces
- Generate, develop and model innovative ideas, through discussion, prototypes and annotated sketches
- Generate innovative ideas through research and discussion with peers and adults to develop a design brief and criteria for a design specification.

Make • Order the main stages of making. • Select from and use appropriate tools with some accuracy to cut and join materials and components • Select from and use finishing techniques suitable for the product they are creating. • Select from and use materials and components, including construction materials and electrical components according to their functional properties. • Select and use a range of appropriate tools with some accuracy e.g. cutting, joining and finishing. •	**Evaluate** • Investigate and analyse books, videos and products with pneumatic mechanisms. • Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work. • Compare the final product to the original design specification. • Take into account others' views. • Investigate and analyse books and, where available, other products with lever and linkage mechanisms. • Carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs. • Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. • Investigate famous manufacturing and engineering companies relevant to the project. • Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. • Evaluate the final product with reference back to the design brief and design specification, taking into account the views of others when identifying improvements.
Technical Knowledge • Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers. • Apply their understanding of computing to program and control their products. • Develop and use knowledge of how to construct strong, stiff shell structures. • Know how to use appropriate equipment and utensils to prepare and combine food. • Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught.	• Understand and use pneumatic mechanisms. • Know and use technical vocabulary relevant to the project.

LKS2 Year 4 – End points	
Electrical Systems (Circuits and switches	• Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers. • Apply their understanding of computing to program and control their products. **Idea: To create a personalised night light to help someone you know get to sleep**

Cooking and Nutrition (Healthy and Varied Diet)	• Know how to use appropriate equipment and utensils to prepare and combine food. Gazpacho, ratatouille, gnocchi

Experiences	SMSC	British Values	The Meadows Values
• Taste seasoned food and different famous food originated in Europe.	• Cultural – the children are taught about some differences regarding food in different cultures.	• Individual liberty – children are encouraged to make their products different and unique. Respect and tolerance - the children are taught about some differences regarding food in different cultures	Resilience – during the entire making process, we discuss keeping on trying and never giving up even if the task gets tricky

UKS2 Year 5: Design and Technology skills progression	
KS2- POS • To 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 • To understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. • To 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. • To 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. • To 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 • To understand and use mechanical systems in their products. • To understand and use electrical systems in their products.	**Design** • Use research to develop a design specification for a functional product that responds automatically to changes in the environment. Take account of constraints including time, resources and cost. • Generate and clarify ideas through discussion with peers and adults to develop design criteria including appearance, taste, texture and aroma for an appealing product for a particular user and purpose. • Communicate ideas through annotated sketches, pictorial representations of electrical circuits or circuit diagrams. • Carry out research into user needs and existing products, using surveys, interviews, questionnaires and web-based resources. • Develop a simple design specification to guide the development of their ideas and products, taking account of constraints including time, resources and cost. • Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross-sectional and exploded diagrams.
Make • Work within the constraints of time, resources and cost.	**Evaluate** • Continually evaluate and modify the working features of the product to match the initial design specification.

• Write a step-by-step recipe, including a list of ingredients, equipment and utensils. • Select and use appropriate utensils and equipment accurately to measure and combine appropriate ingredients. • Make, decorate and present the food product appropriately for the intended user and purpose. • Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components. • Competently select and accurately assemble materials, and securely connect electrical components to produce a reliable, functional product. • Create and modify a computer control program to enable an electrical product to work automatically in response to changes in the environment. • Competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks. • Use finishing and decorative techniques suitable for the product they are designing and making.	• Compare the final product to the original design specification. • Investigate and analyse books and, where available, other products with lever and linkage mechanisms. • Carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs. • Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. • Investigate famous manufacturing and engineering companies relevant to the project. • Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. • Evaluate the final product with reference back to the design brief and design specification, taking into account the views of others when identifying improvements. • Research key events and individuals relevant to frame structures. • Investigate and evaluate a range of existing frame structures. • Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests. • Compare the final product to the original design specification.
Technical Knowledge • Understand that mechanical and electrical systems have an input, process and an output. • Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement. • Know and use technical vocabulary relevant to the project	• Know how to use utensils and equipment including heat sources to prepare and cook food. • Understand about seasonality in relation to food products and the source of different food products. • Understand how to strengthen, stiffen and reinforce 3-D frameworks. Know and use technical vocabulary relevant to the project.

UKS2 Year 5 – End points	
Framed Structures	• Understand how to strengthen, stiffen and reinforce 3-D frameworks.
Mechanical Systems	• Understand that mechanical and electrical systems have an input, process and an output. • Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement. **Idea: To move a toy character in the most imaginative way possible from one point to another.**

(Pulleys and Gears)	
Food and Nutrition (Celebrating Culture and Seasonality)	• Know how to use utensils and equipment to prepare and cook food. • Understand about seasonality in relation to food products and the source of different food products. • Mexican wrap / muffin tin chilli pots / Spicy black bean tacos

Experiences	SMSC	British Values	The Meadows Values
Taste seasoned food and different famous food originated in Mexico.	• Cultural – children are taught about food in different cultures.	• individual liberty – children are encouraged to make their products different and unique. Respect and tolerance - the children are taught about some differences regarding food in different cultures.	• Resilience – during the entire making process, we discuss keeping on trying and never giving up even if the task gets tricky. • Aspiration – during the evaluation stages we discuss being honest with ourselves (self-reflection) and others to ensure we can improve ourselves and our work.

UKS2 Year 6: Design and Technology skills progression	
KS2- POS - To 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. - To 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 and ingredients, according to their functional properties - 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. - To 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 - To understand and use mechanical systems in their products. - To understand and use electrical systems in their products. - Apply their understanding of computing to program, monitor and control their products.	**Design** • Use research to develop a design specification for a functional product that responds automatically to changes in the environment. Take account of constraints including time, resources and cost. • Generate and develop innovative ideas and share and clarify these through discussion. • Communicate ideas through annotated sketches, pictorial representations of electrical circuits or circuit diagrams. • Carry out research into user needs and existing products, using surveys, interviews, questionnaires and web-based resources. • Develop a simple design specification to guide the development of their ideas and products, taking account of constraints including time, resources and cost. • Generate, develop and model innovative ideas, through discussion, prototypes and annotated sketches.
Make • Work within the constraints of time, resources and cost. • Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components. • Competently select and accurately assemble materials, and securely connect electrical components to produce a reliable, functional product. • Create and modify a computer control program to enable an electrical product to work automatically in response to changes in the environment. • Competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks.	**Evaluate** • Continually evaluate and modify the working features of the product to match the initial design specification. • Compare the final product to the original design specification. • Investigate and analyse books and, where available, other products with lever and linkage mechanisms. • Carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs. • Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.

• Use finishing and decorative techniques suitable for the product they are designing and making.	• Investigate famous manufacturing and engineering companies relevant to the project.. • Evaluate the final product with reference back to the design brief and design specification, taking into account the views of others when identifying improvements. • Investigate famous inventors who developed ground-breaking electrical systems and components. • Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests. • Compare the final product to the original design specification.
Technical Knowledge • Understand and use electrical systems in their products. • Apply their understanding of computing to program, monitor and control their products. • Know and use technical vocabulary relevant to the project.	

UKS2 Year 6 – End points	
Electrical Systems (More Complex Switches and Circuits)	• Understand and use electrical systems in their products. • Apply their understanding of computers to program, monitor and control their products. • Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. • Know famous manufacturing and engineering companies relevant to the project.
Food	Understand about seasonality in relation to food products and the source of different food products

Experiences	SMSC	British Values	The Meadows Values
• Taste seasoned food and different types of bread.	• Moral – during the textiles unit children are taught about vegan fabrics.	• Individual liberty – children are encouraged to make their products different and unique. Respect and tolerance - the children are taught about some differences regarding food in different cultures.	• Resilience – during the entire making process, we discuss keeping on trying and never giving up even if the task gets tricky. • Aspiration – during the evaluation stages we discuss being honest with ourselves (self-reflection) and others to ensure we can improve ourselves and our work.