



Design and Technology

St Margaret Clitherow Academy

EYFS Development Matters

Pupils should be taught:

- To safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.
- To handle equipment and tools effectively, including scissors for cutting.
- To use what they have learnt about media and materials, thinking about uses and purposes.
- To represent their own ideas, thoughts and feelings through design and technology, art, music, role play and stories.
- To develop a food vocabulary using taste, smell, texture and feel.
- To begin to understand the need for a variety of foods in a diet.
- To return to and build on previous learning, refining ideas and developing their ability to represent them.
- To create collaboratively, sharing ideas, resources and skills.

Physical Development	Exploring	Problem solving
• Choose the right resources to carry out their own plan. • Use one-handed tools and equipment, for example, making snips in paper with scissors. • Explore fine motor skills: Use a comfortable grip with good control using scissors	• Explore different materials freely, in order to develop their ideas about how to use them and what to make. • Develop their own ideas and then decide which materials to use to express them. • Join different materials and explore different textures. • Use Playdough create figures and objects • Build structures using boxes and other construction materials such as Lego.	<i>Through play children given tasks to solve:</i> • <i>How can we stick 2 pieces of card together?</i> • <i>Can we cut around the lines to cut shapes out?</i> • <i>How can we make the fabric stick together?</i> • <i>Which is the best way of making a strong tower using boxes?</i> • <i>What can we make using the Lego bricks?</i> • <i>How can we make a healthy fruit salad?</i>

Design & Technology: Early Learning Goals

Expressive Arts and Design (Exploring and Using Media and Materials)	Physical Development (Moving and Handling)	Expressive Arts and Design (Being Imaginative)	Cooking and Nutrition
Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	Children handle equipment and tools effectively, including pencils for writing.	Children use what they have learnt about media and materials, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, role play and stories.	Develop a food vocabulary using taste, smell, texture and feel. They start to think about the need for a variety of foods in a diet.

EYFS: Foundation 1			
When?	Advent	Lent	Pentecost
Wider Knowledge/possible cross curricular links	Myself Autumn Nursery Rhymes Bonfire Night Remembrance Day Christmas	Chinese New Year Traditional Stories Easter Growing People who Help Us	Mini Beasts Animals Our World Keeping Healthy Healthy Eating
Core Knowledge	Build on the child's natural curiosity, inventiveness and wonder to help them make sense of the world around them. Teach the skills needed to answer questions and solve problems using investigative methods and other practical techniques. Guide children through the process of investigating, designing, making and evaluating. Enable children to make links to other areas of the curriculum.		
Key Skills	<u>Fine motor skills</u> Cutting Begin to use a variety of drawing tools scissors Investigate different lines (thick, thin, wavy, and straight). Explore different textures. Sticking Experimenting with different sticking techniques using glue sticks, PVA glue, masking tape, Sellotape, blu tac Learn the names of resources		
Key Vocabulary	Cut, stick, soft, hard, straight, strong		<u>Food</u> soft, hard, smell, taste, feel

EYFS: Foundation 2		
Advent	Lent	Pentecost
Advent 1 - Food: Soup Advent 2 – Mechanisms: Sliding Santa Chimney	Textiles: Bookmarks (World book day)	Structures: Boats
To explore fruits and vegetables and the differences between them. To use adjectives to describe how fruits and vegetables look, feel, smell and taste.	To develop threading and weaving skills.	To understand what waterproof means and to test whether materials are waterproof.
DEVELOPMENT and SKILLS ELG: Speaking: Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary.	DEVELOPMENT and SKILLS Develop their small motor skills so that they can use a range of tools competently, safely and confidently.	DEVELOPMENT and SKILLS ELG: Speaking: Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary
Know and talk about the different factors that support their overall health and wellbeing: healthy eating. ELG: Managing self: Manage their own basic hygiene and personal needs, including...understanding the importance of healthy food choices	ELG: Fine Motor Skills: Use a range of small tools, including scissors, paint brushes and cutlery.	ELG: Speaking: Offer explanations for why things might happen.
Understanding the world - Explore the natural world around them. ELG: The Natural World: Explore the natural world around them, making observations and drawing pictures of animals and plants.	Expressive arts and design	
Vocabulary: Fruit Vegetables healthy food	Vocabulary Weaving sewing	Vocabulary Waterproof

To listen to and recall elements from the story ‘The Best Pumpkin Soup.’	To practise and apply weaving skills to a specific material e.g. paper	To test and make predictions for which materials float or sink.
To explore a pumpkin and describe it using the five senses.		
DEVELOPMENT and SKILLS ELG: Speaking: Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary	DEVELOPMENT and SKILLS ELG: Fine Motor Skills: Use a range of small tools, including scissors, paint brushes and cutlery. .	DEVELOPMENT and SKILLS ELG: Speaking: Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary ELG: Speaking: Offer explanations for why things might happen.
Understanding the world ELG: The Natural World: Explore the natural world around them, making observations and drawing pictures of animals and plants.	Expressive arts and design ELG: Creating with materials: Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	Understanding the world Explore the natural world around them.
Vocabulary Pumpkin soup healthy	Vocabulary Weaving sewing	Vocabulary Floating sinking balancing
To design a fruit and vegetable soup recipe.	To practise and apply threading skills with specific materials e.g. hessian and wool.	To learn about the different features and structures of boats and ships.
DEVELOPMENT and SKILLS ELG: Speaking: Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary. Personal, social and emotional development Know and talk about the different factors that support their overall health and wellbeing: healthy eating.	DEVELOPMENT and SKILLS ELG: Fine Motor Skills: Use a range of small tools, including scissors, paint brushes and cutlery confidently and safely.	DEVELOPMENT and SKILLS Use talk to help work out problems and organise thinking and activities, explain how things work and why they might happen.
ELG: Managing self: Manage their own basic hygiene and personal needs, including...understanding the importance of healthy food choices	ELG: Creating with materials: Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function	ELG: Speaking: Participate in small group, class and one-to-one discussions offering their own ideas, using recently introduced vocabulary ELG: Speaking: Offer explanations for why things might happen.
Vocabulary Fruit vegetable healthy	Vocabulary Thread sewing	Vocabulary Build strong float
To practise cutting with a knife. To learn how to use a knife safely.	To use threading or sewing to design a product (bookmark).	To investigate how the shape and structure of boats affects the way they move.
DEVELOPMENT and SKILLS Develop small motor skills so that they can use a range of tools competently, safely and confidently.	DEVELOPMENT and SKILLS Creating with materials: Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	DEVELOPMENT and SKILLS Use talk to help work out problems and organise thinking and activities and to explain how things work and why they might happen.
ELG: Fine Motor Skills: Use a range of small tools, including scissors, paint brushes and cutlery.	Return to and build on their previous learning, refining ideas and developing their ability to represent them.	ELG: Speaking: Participate in small group, class and one-to-one discussions offering their own ideas, using recently introduced vocabulary
Vocabulary Knife ‘keeping safe’	Vocabulary Plan design	Vocabulary Float sink build plan
To observe and help (where appropriate) with the use of tools to prepare ingredients. To describe the finished product and evaluate the process.	To create a textiles product (bookmark) following their own design.	To design a boat.
DEVELOPMENT and SKILLS ELG: Speaking: Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary.	DEVELOPMENT and SKILLS Explore, use and refine a variety of artistic effects to express their ideas and feelings.	DEVELOPMENT and SKILLS Explore, use and refine a variety of artistic effects to express their ideas and feelings
Personal, social and emotional development Know and talk about the different factors that support their overall health and wellbeing: healthy eating.	Return to and build on their previous learning, refining ideas and developing their ability to represent them.	.ELG: Creating with materials: Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

ELG: Managing self: Manage their own basic hygiene and personal needs, including...understanding the importance of healthy food choices	ELG: Creating with materials: Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	
Vocabulary Cut slice	Vocabulary Make	Vocabulary Design plan
To design food packaging.	To reflect with children on how they have achieved their aims	To create a boat based upon their own design.
DEVELOPMENT and SKILLS ELG: Speaking: Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary.	DEVELOPMENT and SKILLS Explore, use and refine a variety of artistic effects to express their ideas and feelings.	DEVELOPMENT and SKILLS Explore, use and refine a variety of artistic effects to express their ideas and feelings
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Explore, use and refine a variety of artistic effects to express ideas and feelings. ELG: Creating with materials: Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	ELG: Creating with materials: Share their creations, explaining the process they have used.	ELG: Creating with materials: Share their creations, explaining the process they have used.
Vocabulary Draw colour	Vocabulary talk liked improve	Vocabulary Make build
To create a picture with a simple sliding mechanism		
DEVELOPMENT and SKILLS ELG: Creating with Materials: Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.		
ELG: Creating with Materials: Share their creations, explaining the process they have used		
ELG: Creating with Materials: Make use of props and materials when role playing characters in narratives and stories.		

National Curriculum DT : Key Stage 1

- In Key Stage 1, when designing and making, pupils will be taught to:
- design purposeful, functional, appealing products for themselves and other users based on design criteria
 - generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology Make
 - select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]
 - select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics Evaluate
 - explore and evaluate a range of existing products
 - evaluate their ideas and products against design criteria Technical knowledge
 - build structures, exploring how they can be made stronger, stiffer and more stable
 - explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products
 - 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.

Design	Make	Evaluate	Technical Knowledge	Food and Nutrition
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.

Year 1		
Advent	Lent	Pentecost
Food: Smoothies	Textiles: Sock puppets	Structures: Windmills
To identify if a food is a fruit or vegetable.	To be able to evaluate existing product's and identify joining techniques	To identify features of a windmill
1. I can name a number of fruits and vegetables.	1. I can identify different joining techniques	1. I know what a windmill is
2. I know how to determine if something is a fruit.	2. I can use 3 different techniques to join 2 pieces of fabric	2. I can describe the purpose of structures
3. I understand that some foods we call vegetables are actually fruits.	3. I can evaluate the different techniques	3. I understand the importance of clear design criteria
		4. I know what a net is
Vocabulary: fruit vegetable seed	Vocabulary: puppet, character, joining technique, gluing, stapling, pinning, evaluate,, design	Vocabulary: net purpose moving part split pin
To identify where fruits and vegetables grow.	To be able to use a template to create my design	To make a stable structure
1. I can identify where plants grow and which parts we eat.	1. I can design my puppet and add detail	1. I can follow instructions to cut and assemble the supporting structure of my windmill
2. I can remember how to determine if a food is a fruit or vegetable.	2. I can identify the joining techniques	2. I know that that the shape of materials can be changed to improve the strength and stiffness of structures
3. I recognise that fruits and vegetables grow in one of three places	3. I can use a template to cut out a shape	3. I know that cylinders are a strong type of structure that are often used for windmills and lighthouses

Vocabulary: fruit leaf root seed stem vegetable	Vocabulary: puppet, character, template, stencil,, material,, joining techniques, gluing, stapling, pinning,	4. I understand what stable means and can ensure my structure has this property
		Vocabulary: Structure Template Net Strong Weak
To plan a healthy drink.	To be able to join two pieces of fabric together	To assemble the components of my structure
1. I can describe what a smoothie is and why it's good for us.	1. I can align two pieces of fabric	1 I can cut and assemble my turbine correctly
2. I can make a choice as to what smoothie I will make and why.	2 I can join two pieces of fabric together accurately	2 I know that axles are used in structures and mechanisms to make parts turn in a circle
3 I can identify what fruits and vegetables are in the drink.	3 I can check my hand fits into my puppet	3. I can attach my turbine to the axle and attach them to the structure of my windmill
Vocabulary: Taste Smell Fruit Vegetables Smoothie healthy	Vocabulary: design, align, template, joining technique, gluing,, stapling, pinning	Vocabulary: Axle Windmill Turbines Machines Structure
To be able to make a healthy drink	To be able to embellish my design using joining methods	To evaluate my project and adapt my design
1. I can follow my plan to make my smoothie	1. I can decorate my design	1 I can evaluate my windmill according to the design criteria
2 I can use tools and equipment safely	2. I can use a range of joining techniques	2. I can test whether my structure is strong and stable and reinforce it if necessary
3 I can recognise the need for hygiene when preparing food	3. I can evaluate my design	3. I can test whether my turbine turns in the structure and alter the parts if it doesn't
Vocabulary: slicing, chopping, grating, hygiene, safely	Vocabulary: decorate, design,, template, resources, materials, joining techniques, evaluate,	Vocabulary: Design criteria stable turbine

Year 2		
Advent	Lent	Pentecost
Mechanisms : Wheels axles/Victorian car	Food: Wraps	Textiles: Pouches
To explore wheel mechanisms	To know what makes a balanced diet	To sew a running stitch
1. I can identify what mechanism makes a toy or vehicle move	1. I know what ‘hidden sugars’ are	1 I can thread a needle
2. I know that in order for a wheel to move it must be attached to an axle	2 I know where to find the nutritional information on a drinks container	2. I can sew a running stitch
3 I can draw and label a diagram of an axle, wheel and axle holder	3 I know that there are five food groups, made up of: - fruit and vegetables - starchy carbohydrates - proteins - dairy - oils and spreads	3. I can use neat and evenly spaced stitches to join fabric
	4. I know roughly how much of each food group I should eat each day	
Vocabulary: wheel axle mechanism axle holder rotates around vehicle	Vocabulary: Balanced diet Carbohydrate Dairy Fruit Ingredients Oils Sugar Protein Vegetable	Vocabulary: running stitch thread needle, needle threader fabric template fabric sew
To identify what stops wheels from turning	To taste test food combinations	To sew a running stitch using a template
1. I know that a wheel needs an axle in order to move	1. I can remember what foods fall into what food groups	1. I can remember how to use a template
2. I can fix a design so that the wheel can move	2. I know how to experience food through touch and smell	2. I can cut fabric neatly
3. I can use appropriate vocabulary to describe which parts are moving or not	3. I can consider and review food combinations	3. I can pin fabric accurately
	4. I know that the most ideal ingredient combinations for my wrap will contain foods from more than one food group	
Vocabulary: wheel axle mechanism axle holder rotates – go around vehicle	Vocabulary: Balanced diet Balance Carbohydrate Dairy Fruit Ingredients Oils Sugar Protein Vegetable	Vocabulary : running stitch thread needle, needle threader fabric template fabric sew
To design a moving vehicle	To design a healthy wrap.	To join fabrics using a running stitch
1. I know what makes a wheel and an axle work	1. I can remember which food combinations work well together.	1. I can sew neat, even stitches
2. I can design a moving vehicle	2. I can design three possible wraps based on these combinations.	2, I tie a knot at either end of the thread
3. I can label my design using appropriate vocabulary	3, I can choose one of these to make as my ‘Final Design’.	3, I can design decorations for my product
	4, I know how to slice food safely using the bridge or claw grip	
Vocabulary: wheel axle mechanism axle holder rotates – go around vehicle	Vocabulary: Balanced diet Balance Carbohydrate Dairy Fruit Ingredients Oils Sugar Protein Vegetable	Vocabulary : running stitch thread needle, needle threader fabric template fabric sew
To build a moving vehicle	To make a healthy wrap.	To decorate a pouch using fabric glue or stitching
1. I can make a wheel and axle mechanism	1. I can remember how to prepare food safely.	1. I can join items using fabric glue or stitching
2. I can test out my design	2, I can make a healthy wrap.	2, I can decorate fabric using different items
3. I can evaluate my design to make it improve	3, I know how to review my design	3, I can evaluate my own designs
Vocabulary: wheel axle mechanism axle holder rotates – go around vehicle	Vocabulary: Balanced diet Balance Carbohydrate Dairy Fruit Ingredients Oils Sugar Protein Vegetable	Vocabulary: running stitch thread needle, needle threader fabric template fabric sew

National Curriculum: DT: Key Stage 2

Pupils should be taught to develop their techniques, including their control and their use of materials, with creativity, experimentation and an increasing awareness of different kinds of art, craft and design. In Key Stage 2, pupils continue to build on these key skills acquired in previous years and progress:

- Design
- use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
 - generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design
- Make
- select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
 - select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities
- Evaluate
- investigate and analyse a range of existing products
 - evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
 - understand how key events and individuals in design and technology have helped shape the world
- Technical knowledge
- apply their understanding of how to strengthen, stiffen and reinforce more complex structures
 - understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
 - understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]

Design	Make	Evaluate	Technical Knowledge	Food and Nutrition
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 shaped 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.

Year 3		
Advent	Lent	Pentecost
Pneumatics : Moving toy	Textiles: Egyptian collar	Structures: Shelters
To understand how pneumatic systems work .	To learn how to sew cross-stitch and to appliqué.	To explore different types of shelters To understand what materials the shelters are made from and why.
1. I know that mechanisms are a system of parts that work together to create motion	1. I can use the cross-stitch sewing technique	1 I can work with a partner and discuss what materials different types of shelters are made from
2 I know that a pneumatic system can be used as part of a mechanism I know that pneumatic systems are used in a range of everyday objects	2 I know how to appliqué.	2 I can use the internet to find out how and why shelters are made
3 I know that a pneumatic system can force air over a distance to create movement	3 I can reflect on the techniques used.	3 I research how to make a shelter in a woodland environment
Vocabulary mechanism lever pivot linkage system pneumatic system input output component thumbnail sketch research adapt	Vocabulary appliqué cross-stitch fabric patch running stitch thread	Vocabulary: Materials structures search engines environment
To design a toy that uses a pneumatic system	To develop and use a template.	To plan and construct a shelter from given materials To work in a team
1 I can develop design criteria from a design brief I can generate suitable ideas using thumbnail sketches and exploded diagrams	1 I can design a collar based on a set theme.	1 I can work in a team I can use my plan to make a model
2 I know that there are three different types of pneumatic systems that I can use to design my toy and I can use recycled household objects to make it	2 I can develop a template.	2 I can measure to ensure accuracy. I can put together a structure to hold a large teddy bear 30cm tall
3 I know that different types of drawings are used in design to explain ideas clearly	3 I understand how to adapt a template to fit design criteria	3 I can explain how and why my structure was made I can test my structure using weights and a hair dryer / air from a balloon
Vocabulary: mechanism lever pivot linkage system pneumatic system input output component thumbnail sketch research adapt	Vocabulary: Symmetrical asymmetrical Ancient Egypt Egyptian Usek Pharaohs unique	Vocabulary: Structure strength evaluate shelter sturdy
To create a pneumatic system	To assemble fabric parts into a fabric product.	To construct a shelter from natural resources found in the woodland
1 I can create a pneumatic system to create a desired motion	1. I can cut and shape fabric accurately	1. I can work in a team
2. I can build secure housing for a pneumatic system	2 I can use a template to create the main parts of my fabric product	I know I have to work to a given criteria I know what resources I can forage in the woodland
3 I know that syringes and balloons can be used to create different types of pneumatic systems	3 I can use stitches to join fabrics.	3. I can make a rough draft of what my shelter will look like
4 I know how to use these components to make a functional and appealing pneumatic toy	4 I know that fabrics have different properties depending on the material.	4. I can work to the safety rules given to me
Vocabulary: Structure strength evaluate shelter sturdy	Vocabulary Template properties	Vocabulary: Criteria stiffen strength frame pod forage
To test and finalise ideas against design criteria	To decorate fabric using appliqué and cross-stitch.	To evaluate our team work and our shelters
1 I can remember that materials are selected due to their functional and aesthetic characteristics	1. I can follow design criteria.	1. I can discuss how we worked in a team
2. I know how to manipulate materials to create different effects by cutting, creasing, folding, weaving, et	2 I can use cross-stitch.	2. I can evaluate my shelter to the given criteria
3 I can explain how my system works	3. I can add appliqué	3. I can make suggestions how we could have improved our shelter
Vocabulary: evaluate criteria effect pneumatic	Vocabulary: Embellish across-stitch running stitch template pinking	Vocabulary: evaluate improve criteria

	LI : To evaluate my own work	
	1. I can discuss my work	
	2. I can look at the criteria given and compare my work	
	3. I can suggest improvements	
	Vocabulary Criteria evaluation improve	

Year 4		
Advent	Lent	Pentecost
Food: Adapting a recipe Greek food	Structures : Pavilions	Electronic systems: Torches
To know what a balanced diet is	To create a range of different shaped frame structures	To learn about electrical items and how they work
1. I can name different food groups	1. I can make a variety of different frame structures.	1. I can identify electrical product
2. I can give examples of foods in each food group	2. I know what the structure (pavilion) is used for.	2. I know what electrical conductors and insulators are
3. I can explain what a balanced diet is and why it is important		3. I know that a battery contains stored electricity and can be used to power products
Vocabulary: carbohydrate protein dairy vegetables fruit vitamins balanced diet	Vocabulary Design criteria natural Structure 3D Shapes pavilion	Vocabulary: attract electricity battery bulb buzzer conductor circuit circuita collection of components which make an electrical system. diagram electricity insulator series circuit switch
To read and evaluate	To design a structure	L.I - To analyse and evaluate electrical products
1. I can research recipes and give reasons for choosing certain ones to make	1. I know that different materials can create different effects	1. I can identify the features of a torch and understand how a torch works
2. I can budget for a recipe	2. I understand how to make a stable structure	2. I can say what is good and bad about different torches
3. I can explain what safety and hygiene work will need to happen if following a given recipe	3. I can design a structure that is stable and aesthetically pleasing	3. I understand what is important in torch design
Vocabulary: recipes Ingredient measure quantity cross contamination processed packaging	Vocabulary Design criteria natural Structure 3D Shapes	Vocabulary: battery bulb circuit component design design criteria diagram electricity evaluation led model series circuit shape switch target audience
To follow a recipe	To build a frame structure	To design a torch Design
1. I can measure out the ingredients accurately	1 I can build a free-standing structure	1 I can factor in who my product is for in my design criteria
2 I can prepare and cut the ingredients safely and hygienically	2 I can select appropriate materials to build a strong structure	2 I can design a torch which satisfies both the design and the success criteria
4 I can follow the recipe in order	3 I know how to reinforce corners to strengthen my structure	3 I can label and explain the reasons for my design
	4 I refer to my design sheet to create my pavilion	
Vocabulary: measure quantity ingredient cross-contamination	Vocabulary Structure reinforce	Vocabulary: design criteria circuit component input recyclable switch theme
To evaluate a recipe	To add cladding to a frame structure	L.O – To make and evaluate a torch
1 I can give my opinion on the look of the finished dish	1 I can select appropriate materials for my cladding	1 I can make a working circuit with a switch
2 I can suggest changes to the recipe that would improve the dish	2 I can add cladding which reflects my design	2 I can use appropriate equipment to cut and attach materials
3 I can evaluate the recipe and final dish - give my opinion on the taste of the dish supported with a reason	3 I can create different textural effects with my chosen material	3 I can assemble a torch according to my design criteria

Vocabulary: texture aesthetic	Vocabulary cladding strength reinforce strengthen	vocabulary: aesthetics assemble battery bulb circuit conductor design criteria diagram electricity equipment evaluation ingredients insulator model packaging properties shape sketch switch test
		• To evaluate my torch design and product against criteria
		1. I can make my torch light up
		2. I can switch my torch on and off
		3. My electrical components remain securely in place when carrying or moving my torch
		Vocabulary: aesthetics assemble battery bulb circuit conductor design design criteria diagram electricity equipment evaluation ingredients insulator model packaging properties shape sketch switch test

Year 5		
Advent	Lent	Pentecost
Textiles : Soft toy	Structures : Bridges	Mechanisms : pop-up books
To design a stuffed toy	To explore how to reinforce a beam (structure) to improve its strength.	To design a pop-up book
1. I know how to ensure that my template is proportional	1. I can create a range of beam and arch bridge designs	1. I can describe the input and output of a mechanism
2. I can make a paper template	2. I can identify stronger and weaker structures	2. I can describe how a mechanism controls movement
	3. I can find different ways to reinforce structures	3. I can design different mechanisms to create different movements
Vocabulary: Design Template Model Stuffed toy Fabric Running stitch Cross-stitch Appliqué	Vocabulary: bridge, structure, strength, support, weight, reinforce	Vocabulary: design, input, motion, mechanism, reinforce, model
To sew blanket stitch	To build a variety of structures to evaluate their effectiveness	To follow a design brief
1. I can cut neatly and accurately	1 I can identify arch, beam and truss bridges	1 I can follow my design, whilst making small changers
2 I can thread a needle	2. I can use triangles to create truss bridges and test them	2 I can create mechanisms that take inputs and outputs
3 I can use a blanket stitch to join two pieces of fabric	3 I understand how triangles can be used to reinforce bridge	3 I can evaluate my mechanisms to make improvements
Vocabulary: Running stitch Cross-stitch Applique	Vocabulary beam, arch, truss, triangle, stability, strength, joint	Vocabulary: lever strength spaces Rigidity lever
To create and add decorations to fabric	To build a wooden truss bridge.	To improve the structure of mechanisms
1 I can create strong and secure stitches (blanket, running, cross stitch)	1. I can measure and mark out accurately on wood	1 I can add layers to my mechanism
2 I can use applique to attach pieces of fabric decoration	2 I can select appropriate tools and equipment for particular tasks	2. I can add spaces to my mechanism
3 I can use stitches to decorate fabric	3 I can follow health and safety rules	3, I can explain how spaces and layers improve my design
Vocabulary: running stitch blanket stitch cross stitch	Vocabulary: hard wood, soft wood, saw, marking out, measuring.	Vocabulary: layers spaces lever strength spaces Rigidity
To use a blanket stitch to assemble the components of a stuffed toy	To reinforce the weak point of a structure.	To create a high-quality product suitable for a target user
1. I can use a blanket stitch to join two pieces of fabric	1. I can complete my wooden truss bridge	1 I can complete the surface decoration of my pop-up book by adding the story through: Pictures and Caption
2 I can stuff my toy carefully, repairing any holes or gaps	2 I can identify points of weakness and reinforce them as necessary following testing	2 I know that I need to consider the preferences and needs of the user
3 I can evaluate my stuffed toy	3 I can evaluate my truss bridge against a specification	3 I know that good quality making should be neat, accurate and securely assembled
Vocabulary	Vocabulary evaluate, accuracy, joints	Vocabulary Caption suitability target user

Year 6		
Advent	Lent	Pentecost
Electronics: Systems	Mechanisms: Automata Toys Cams and followers	Food: Healthy meal (come dine with me)
To research and analyse a range of children’s toys	To prepare wood for assembly by measuring, marking and cutting each piece	To research and design a three-course meal.
	1. I can measure, mark and check the accuracy of the wood and card automata components	1. I know how to research a recipe by ingredient.
	2. I can follow health and safety rules	2. I understand that not all courses complement one another.
		3. I can list the ingredients I need for my chosen recipe
	3. I can suggest appropriate design criteria points to fulfil the design brief	4. I can read the method and make a list of all of the equipment I need for my chosen recipe.
Vocabulary: function workings analyse evaluate	Vocabulary: automata accurate mark out tenon saw bench hook sandpaper design brief design criteria components woodwork	Vocabulary: Equipment Flavours Ingredients Method Research Recipe variety healthy
To design a steady hand game	To assemble the automata frame components and supports with the help of an exploded-diagram	To prepare a meal using a recipe. TO START To understand where their food comes from. To write up a recipe. <i>(Pupils will focus on a different learning objective in their rotation teams, across Lessons 2, 3 and 4.)</i>
1. I can identify and name the components in a steady hand game	1. I can assemble a product with the support of an exploded-diagram	1. I can prepare ingredients and follow a recipe safely and sensibly.
2. I can decide on clear design criteria for my game		2. I can describe the process of ‘Farm to Fork’ for a given ingredient using a storyboard
3. I can design a game and draw it from three different perspectives	2 For my frame to function effectively I know that: the components must be cut accurately , the joints of my frame should be secured at right angles	3. I can contribute a well-written recipe page to a class cookbook using imperative verbs, adjectives and illustrations
4. My design reflects the design criteria	3 I know that a glue gun can be dangerous if not used properly	4. I can prepare ingredients and follow a recipe safely and sensibly.
Vocabulary: components bulbs lights switches perspective Circuit	Vocabulary: automata accurate mark out tenon saw bench hook sandpaper design brief design criteria components woodwork	Vocabulary: Equipment Flavours Ingredients Method Research Recipe variety healthy
. To construct a stable base	To explore the relationship between cam profiles and follower movement, to inform a design decision	To prepare a meal using a recipe. THE MAIN COURSE To understand where their food comes from. To write up a recipe. <i>(Pupils will focus on a different learning objective in their rotation teams, across Lessons 2, 3 and 4.)</i>
1. I can accurately cut and assemble a net	1. I understand the cam profile causes a follower to rise, fall or remain static at different points depending on its shape	1. I can prepare ingredients and follow a recipe safely and sensibly. I can describe the process of ‘Farm to Fork’ for a given ingredient using a storyboard.
2. I can decorate the base and ensure a high quality finish	2. I can make informed design decisions based on my exploration of cam profiles	2. I can contribute a well-written recipe page to a class cookbook using imperative verbs, adjectives and illustrations
3. I can ensure that the sides of the base are aligned when glued		
4. I can use tabs to secure the pieces of the net in place	3. I understand the cam profile causes a follower to rise, fall or remain static at different points depending on its shape	3. I can prepare ingredients and follow a recipe safely and sensibly.
Vocabulary: components bulbs lights switches perspective circuit	Vocabulary: automata accurate mark out tenon saw bench hook sandpaper design brief design criteria components woodwork	Vocabulary: Equipment Flavours Ingredients Method Research Recipe variety healthy

To assemble electronics and complete an electronic game	To apply the housing and finishing touches to the automata frame	To prepare a meal using a recipe. THE DESSERT To understand where their food comes from. To write up a recipe. <i>(Pupils will focus on a different learning objective in their rotation teams, across Lessons 2, 3 and 4.)</i>
1. I can make and test a circuit	1. I can measure and apply panels to my automata to conceal the inner-workings	1. I can prepare ingredients and follow a recipe safely and sensibly. I can describe the process of ‘Farm to Fork’ for a given ingredient using a storyboard.
2. I can incorporate a circuit into a base	2 I know that good quality products should be neat, accurate and securely assembled	2. I can contribute a well-written recipe page to a class cookbook using imperative verbs, adjectives and illustrations
3 I can name electrical components	3. I can evaluate my automata against a list of criteria	3. I can prepare ingredients and follow a recipe safely and sensibly.
Vocabulary: components bulbs lights switches perspective circuit	Vocabulary: automata accurate mark out tenon saw bench hook sandpaper design brief design criteria components woodwork	Vocabulary: Equipment Flavours Ingredients Method Research Recipe variety healthy