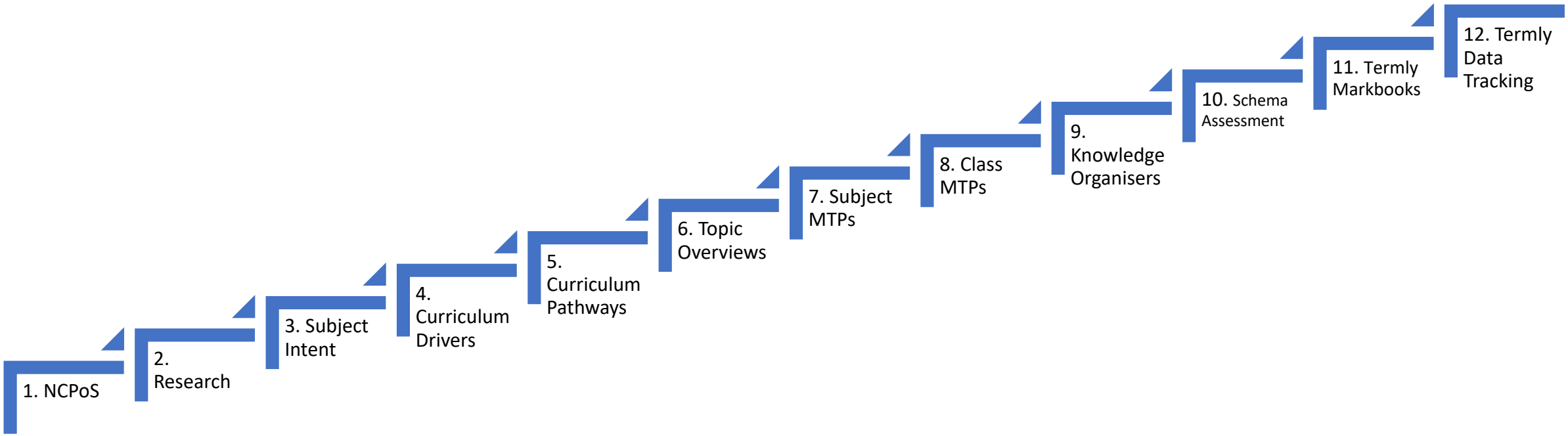
DT at Peters Hill

Our Process

The Process at Peters Hill
Our 12 step approach



INTENT

At Peters Hill, our DT curriculum strives towards the following aims:

- To give a range of DT opportunities to support children's belief that they can be designers and engineers.
- To develop guided research skills and knowledge about specific materials, features and design of the product to be made.
- To practice research to produce a prototype of a product to be created.
- To develop skills of evaluation before producing final design/product.
- To create final products using evaluations to inform production.
- To use discussion to introduce technical vocabulary at appropriate stages throughout the design and production process.

We believe that in DT, all children should:

- Understand the role of design and designers.
- To build and apply a repertoire of knowledge, understanding and skills to design and make prototypes and products.
- To develop creative, technical and practical expertise to participate successfully in the technological world.
- To understand and apply the principles of nutrition and learn how to cook.
- To develop subject specific technical vocabulary and opportunities to evaluate and reflect upon design.
- To think critically and present their views and ideas.

Children become proficient designers through building knowledge and skills across the specific pathways of;

- Pathway 1- Developing, planning and communicating ideas.
  Pathway 2- Working with tools, equipment, materials and components to make quality products.
  Pathway 3- Technical knowledge.
  Pathway 4- Evaluating processes and products.
  Pathway 5- Food.
  Pathway 6 – Mechanisms.
  Pathway 7 – Textiles.
  Pathway 8 – Structures.
  Pathway 9 – Electrical Systems.

Curriculum Drivers - How do our whole school values link to the subject?

- AMBITION (Success) – Where appropriate, examples to be shown of the product to be created to allow a firm grasp of the aim and outcomes of the task set. Apply discussion about previous learning to establish prior knowledge in order for this to then be applied to the current task. Identify the skills needed to engage in the creative process with an effective and logical approach. This should ensure the final product created is of a high standard, follows the design brief and is fit for purpose.
- BELIEF (Confidence)– All children will have regular opportunities to evaluate their learning and the product they are creating to enable them to assess their learning/ skills over time. By using constant evaluation of the process build into this the belief that we can feel positive and proud about what we create, this should instil self-confidence that we can then carry through to all areas of the curriculum.
- COMPASSION (Motivation) – Children will be encouraged to relate where appropriate to the world around them and to draw inspiration from what they see, this will in turn support the use of each child's observational skills. Consideration should be given to how objects we see daily work and are constructed fostering awe and wonder in each individual child. The notion that the world and its contents should not be taken for granted; Everything starts with a thought. Children will be motivated by their creations and the hands-on approach Design Technology offers to learning.
- PRIDE (Knowledge) – Opportunities must be given to allow children to assess and evaluate each other's work at regular stages in Design Technology lessons. Encourage positive comments but also fair and sensitively honest ones about how a product can be improved. Constructive criticism must be used and accepted in order to make what we do better, on the quest to strive for perfection. This will support the sense of pride that is felt when we have worked to the best of our ability.
- RESPECT (Responsibility) – Children need to develop an awareness of all aspects of the world around them from the natural to the man made. Understand the concept that for something to be created it begins with a thought and then becomes part of a creative process to bring into being. It is this process we can all become part of by creating our own designs and products.

Key Competencies

- The following documents set out the key competencies developed across the range of topics in each year group.
- These key competencies are set out as pathways to demonstrate how they link and progress throughout the school.
- These competencies are then planned into each topic through the half termly medium term planning process.
- These competencies combine to make the total schema that teaching staff use to assess the children at the end of the topic. This generates assessment judgements as set out on the following slide and happens three times a year.
- These total judgements average throughout the term. This total will fall between 1 to 5 depending on the outcome of each topic.

Novice	Simple idea	Relational idea	Multiple Links	Expert understanding
1	2	3	4	5
The task is not attacked appropriately; the pupil hasn't really understood the point and uses too simple a way of going about it.	The pupil's response only focuses on one relevant aspect.	The pupil's response focuses on several relevant aspects but they are treated independently and additively. Assessment of this level is primarily quantitative.	The different aspects have become integrated into a coherent whole. This level is what is normally meant by an adequate understanding of some topic.	The previous integrated whole may be conceptualised at a higher level of abstraction and generalised to a new topic or area.
Well below - Has significant difficulties in successfully accessing the competenies	Below - Can access key competencies of the schema but need significant support to do so.	Emerging - Started to unlock key competencies of the schema but not yet secure. Support can be required.	Secure - Securely unlocked the key competencies of the schema. No support is required.	Mastered - Can apply the competencies of the schema with fluency in different contexts.

Key Competency Expectations

Well Below
Working well below the standard. Has significant difficulties in accessing the key competencies.

Below
Working below the standard. Can access key competencies of the schema but needs support to do so.

Emerging
Emerging towards the standard. Started to unlock key competencies of the schema but not yet secure. Support can be required.

Secure
Meeting the standard. Securely unlocked the key competencies of the schema. No support is required.

Mastered
High attaining within the standard. Can apply the competencies of the schema with fluency in different contexts.

Key Competency Progression 2022/23

	Autumn %		Spring %		Summer %
1.0 – 1.9	Well Below = 11	1.0 – 1.9	Well Below	1 -1.9	Well Below
2.0 – 2.4	Below = 9	2.0 – 2.9	Below	2.0 – 2.9	Below
2.5 – 3.4	Emerging = 38	3.0 – 3.4	Emerging	3.0 – 3.4	Emerging
3.5 – 4.0	Secure = 13	3.5 – 4.0	Secure	3.5 – 4.0	Secure
4.1 – 5	Mastered = 29	4.1 - 5	Mastered	4.1 - 5	Mastered

Pathways	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Developing, planning and communicating ideas	I can generate my own ideas to make something I can explain to someone else how I want to make my product. I can make a simple plan before making. I can describe how something works.	I can identify at least one feature my product needs to have, to be successful. I can create a labelled picture of my idea.	I can discuss existing products. I can identify some of the features my product needs to be successful. I am beginning to understand that my product might be useful to a certain group or individual. I can make a clear, labelled sketch of my design. I can practise/test my skills, e.g. stitching, mechanisms.	I can investigate existing products. I can explain and follow a given design criteria. I can identify who my product is for. I can make a clear, labelled sketch of each part of my design. I can practise/test my skills, e.g. stitching, mechanisms.	I can research a range of existing products. I can suggest ideas for my own design criteria. I understand that my product might be suitable for specific individual or group. I can create a product that has clear purpose. I can communicate my ideas through multiple annotated sketches. I can experiment with computer-aided design. I can make mock-ups to test my design.	I can independently research a range of existing products. I can develop my own design criteria. I can create something that is aimed at a specific individual or group. I can create a product that is functional and fit for purpose. I can communicate my ideas through annotated sketches, cross-sectional and exploded diagrams. I can use computer-aided design. I can create a prototype.

Key Competencies

Working with tools, equipment, materials and components to make quality products	I can use resources and tools correctly, e.g. scissors. I can cut, shape and join materials.	I can investigate materials and choose suitable ones to make my product. I can join materials/components in different ways. I am beginning to use finishing techniques to make my products more appealing.	I can use tools/equipment safely and correctly. I can suggest one reason why some materials/components might be suitable to create my products. I am beginning to use finishing techniques more consistently to make my products more appealing.	I can use tools/equipment safely and correctly. I am beginning to suggest reasons why some materials/components might be suitable to create my products. I can use finishing techniques consistently to make my products more appealing.	I can name and explain the purpose of the tools/equipment I use to make my products. I can use tools/equipment safely and with reasonable accuracy. I can suggest why materials/components might be suitable to create my products. I can use finishing techniques effectively.	I can select the correct tools/equipment to cut, shape, join and finish my products. I can use tools/equipment safely and accurately. I can select appropriate materials/components to create my products. I can justify my choice of material/components based on, e.g. their properties, aesthetic qualities.

Key Competencies

Key Competencies

Technical knowledge	I can experiment with making my products stronger, stiffer and more stable. I can make a slider.	I can find one way to make my structures stronger, stiffer and more stable. I can use mechanisms, e.g. levers, sliders, wheels and axles, in my products.	Most of my product is strong and stable. I can use mechanical systems in my products, e.g. gears, pulleys, cams, levers and linkages.	I can make a product that is strong and stable. I can use mechanical systems in my products, e.g. gears, pulleys, cams, levers and linkages.	I can use a variety of techniques to strengthen my products. I can use a mechanical system in my products, e.g. gears, pulleys, cams, levers and linkages.	I can strengthen, stiffen and reinforce my products. I understand and can use mechanical systems in my products, e.g. gears, pulleys, cams, levers and linkages. I understand and can use electrical systems in my products, e.g. series circuits incorporating switches, bulbs, buzzers and motors.

Evaluating processes and products	I can say what I like/dislike about existing/my products.	I can say what I like/dislike about existing products. I can say what went well with my product. I can say one thing I would change to improve my product.	I can identify one positive feature of an existing product. I can identify one positive feature of my own product or the product of another. I can make one improvement to my work.	I can say whether I think an existing product works well or not. I can say whether my products/the products of others work as intended. I can make more than one improvement to my work.	I can identify the positive/negative features of existing products. I can judge whether my products/the products of others match the design criteria. I can make some improvements to my work based on my own and the evaluations of others. I can identify how a key events/individual in design and technology has helped shape the world.	I can appraise a range of existing products, identifying the positive/negative features and suggesting improvements. I can evaluate my products against my own design criteria. I can constructively evaluate the work of others against their design criteria. I can make improvements to my work based on my own and the evaluations of others. I understand how key events and individuals in design and technology have helped shape the world.

Key Competencies

Food	I can develop my knowledge of basic healthy eating messages. I can develop the skills to safely use a range of basic cooking equipment (e.g. knife, chopping board, spoon, fork, bowl). I can Shape food with accuracy for a desired effect. I can Shape using a rolling pin. I can spoon ingredients between containers. I can measure using a spoon or count ingredients. I can sift flour into a bowl. I can follow simple instructions given one at a time by an adult.	I can develop my knowledge of basic healthy eating messages. I can develop the skills to safely use a range of basic cooking equipment (e.g. knife, chopping board, spoon, fork, bowl). I can whisk using a fork. I can rub in fat to flour. I can knead dough. I can spoon ingredients between containers. I can measure referring to ingredients in simple fractions. I can cut using a table knife to cut into equal portions. I can grate soft foods e.g. cheese, cucumber.	I can develop my knowledge of healthy eating messages. I can develop the skills to safely use a range of basic cooking equipment (e.g. knife, chopping board, spoon, fork, bowl). I can cut food safely. I can peel with a swivel peeler with supervision. I can shape and mould to create visually appealing products. I can spoon ingredients between containers equally dividing mixture. I can measure using a jug with support I can cut out placing the cutter in positions to make best use of the material and avoid waste.	I can develop my knowledge of healthy eating messages. I can develop the skills to safely use a range of basic cooking equipment (e.g. knife, chopping board, spoon, fork, bowl). I can cut food safely. I can peel with a swivel peeler with supervision. I can shape and mould to create visually appealing products. I can spoon ingredients between containers equally dividing mixture. I can mix/stir to combine. I can measure using a jug with support I can measure Using digital scales with support to begin with.	I can develop my knowledge of healthy eating messages. I can develop the skills to safely use a range of basic cooking equipment (e.g. knife, chopping board, spoon, fork, bowl). I can cut food safely using a bridge hold. I can peel with a swivel peel to create food ribbons to be used in a dish. I can spoon ingredients between containers equally dividing mixture. I can mix/fold ingredients together carefully. I can measure using a jug independently. I can measure Using digital scales independently.	I understand the principles of a healthy and varied diet. I can demonstrate the skills to safely use a range of basic cooking equipment (e.g. knife, chopping board, spoon, fork, bowl). I can cut food safely using a bridge hold. I can peel with a swivel peel to create food ribbons to be used in a dish. I can spoon ingredients between containers equally dividing mixture. I can mix/fold ingredients together carefully. I can measure using a jug independently. I can measure Using digital scales independently.

Key Competencies

Key Competencies

I can follow a simple recipe supported by an adult I can explain how to work with food hygienically. I can identify different food groups.	I can grate soft foods e.g. cheese, cucumber. I can follow a simple recipe with guidance from an adult. I can explain how to work with food hygienically. I can identify different food groups. I can name some of the food groups that are part of a healthy diet. I can prepare a variety of dishes.	I can cut out placing the cutter in positions to make best use of the material and avoid waste. I can grate firmer foods e.g. apple, carrot. I can follow a simple recipe with guidance from an adult. I can explain how to work with food hygienically. I can identify different food groups. I can name all the food groups that are part of a healthy diet. I can prepare a variety of dishes using a range of techniques.	I can grate firmer foods e.g. apple, carrot. I can follow a simple recipe independently. I can explain and demonstrate how to work with food hygienically. I know the approximate portion size you should eat from each food group as part of a healthy diet. I can prepare and cook a variety of dishes using a range of cooking techniques.	I can grate using the zesting part of the grater. I can follow a simple recipe independently. I can explain and demonstrate how to work with food hygienically. I can prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. I understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.

Mechanisms	**Wheels and Axels** Generate ideas and simple design criteria. Develop and communicate ideas through drawings and mock-ups. Select a range of tools and equipment and materials to perform practical tasks. Explore wheels and axles and evaluate their ideas and products against original criteria.	**Sliders and Levers** Generating, modelling and communicating ideas. Planning making, selecting tools and using finishing techniques. Exploring books and products; evaluating own product against original criteria. Exploring sliders and levers; understanding types of movement; technical vocabulary.	**Levers and Linkages** Generate realistic ideas and use annotated sketches and prototypes to develop, model and communicate ideas. Select and use tools with some accuracy to cut, shape and join paper and card. Investigate and analyse their own and others' products with lever and linkage mechanisms. Understand and use lever and linkages, and fixed and loose pivots.	**Pneumatics** Generate their own realistic ideas and use annotated sketches and prototypes to develop, model and communicate ideas. Select and use tools with some accuracy, cut and join materials and components such as tubing, syringes and balloons. Investigate and find information on and products with pneumatic mechanisms and evaluate their own products and ideas against criteria and user needs. Understand and use pneumatic mechanisms.	**Cams** Generate a design from research; develop a specification, model and communicate ideas. Produce lists of tools and materials and plans to make accurately assembled and well finished products within constraints. Compare final product to the original specification; test products with the intended user and critically evaluate the product, considering the views of others. Investigate famous manufacturing and engineering companies relevant to the project.	**Pulleys or Gears** Generate ideas through research and develop and communicate a simple design specification. Select use a range of tools and equipment to make products that that are accurately assembled and well finished within the constraints of time, resources and cost. Compare the final product to the original design specification and test the quality of the design, manufacture and functionality with the user. Investigate famous manufacturing and engineering companies relevant to the project.

Key Competencies

Textiles	**Templates and Joining Techniques**	**Templates and Joining Techniques**	**2D Shape to 3D product**	**2D Shape to 3D product**	**Combining different fabric shapes**	**Using computer aided design in textiles**
	Design a functional, appealing product for a chosen user and purpose. Generate, develop, and communicate ideas. Use a range of textiles, tools and equipment to perform practical tasks. Explore and evaluate existing textile products and their own ideas and products. Understand how 3-D textile products are made, using joining, templates and finishing to create two identical shapes.	Design a functional, appealing product for a chosen user and purpose. Generate, develop, and communicate ideas. Use a range of textiles, tools and equipment to perform practical tasks. Explore and evaluate existing textile products and their own ideas and products. Understand how 3-D textile products are made, using joining, templates and finishing to create two identical shapes.	Generate design criteria for an appealing, functional product for specific users. Produce annotated sketches, prototypes, final product sketches and pattern pieces. Select fabrics and fastenings according to their functional characteristics. Investigate a range of 3-D textile products. Test their product against the original criteria and with the intended user.	Generate design criteria for an appealing, functional product for specific users. Produce annotated sketches, prototypes, final product sketches and pattern pieces. Select fabrics and fastenings according to their functional characteristics. Investigate a range of 3-D textile products. Test their product against the original criteria and with the intended user.	Generate and communicate innovative ideas through research. Produce detailed lists of equipment and fabrics and formulate step-by-step plans for making. Investigate and analyse textile products linked to their final product and compare the final product to the original design specification. Know that a 3-D textile product can be made from a combination of pattern pieces, fabric shapes and different fabrics and that fabrics can be strengthened, stiffened and reinforced.	Generate innovative ideas through research and develop these using mock-ups and prototypes including using computer-aided design. Design functional, appealing products for the intended user that are fit for purpose based on a simple design specification. Select and use a range of tools and equipment, including CAD, to make products that are accurately assembled and well finished. Work within the constraints of time, resources and cost.

Key Competencies

Structures	**Freestanding Structures** Generating design ideas; developing modelling and explaining using talk, mock-ups and drawings. Planning making, selecting tools and new and recycled materials; using finishing techniques. Exploring existing freestanding structures; evaluating their own products against original criteria. Know about strengthening structures; knowledge of vocabulary.	**Freestanding Structures** Generating design ideas; developing modelling and explaining using talk, mock-ups and drawings. Planning making, selecting tools and new and recycled materials; using finishing techniques. Exploring existing freestanding structures; evaluating their own products against original criteria. Know about strengthening structures; knowledge of vocabulary.	**Shell Structures** Generate and develop realistic ideas and design criteria collaboratively and through analysis of existing products. Order the stages of making; selecting tools and using with some accuracy. Investigate and evaluate shell structures, and construct strong, stiff shell structures. Test and evaluate own products against design criteria and intended user and purpose.	**Shell Structures** Generate and develop realistic ideas and design criteria collaboratively and through analysis of existing products. Order the stages of making; selecting tools and using with some accuracy. Investigate and evaluate shell structures, and construct strong, stiff shell structures. Test and evaluate own products against design criteria and intended user and purpose.	**Frame Structures** Research user needs and existing products and develop and model innovative ideas into a design specification. Formulate a plan with a step-by-step list of tasks and resources. Use tools to accurately measure, mark out, cut, shape and join materials to make frameworks. Use finishing techniques suitable for the product and critically evaluate their products against a range of criteria. Research key events and individuals relevant to frame structures.	**Shell structures using computer aided design** Generate ideas and designs, developing them through analysis of shell structures and use CAD to model and communicate ideas. Plan the making and use appropriate tools and software, explaining their choices. Use computer-generated finishing techniques. Evaluate shell structures and their own products. Develop knowledge of nets of cubes and cuboids and more complex 3D shapes and how to construct strong, stiff shell structures.

Key Competencies

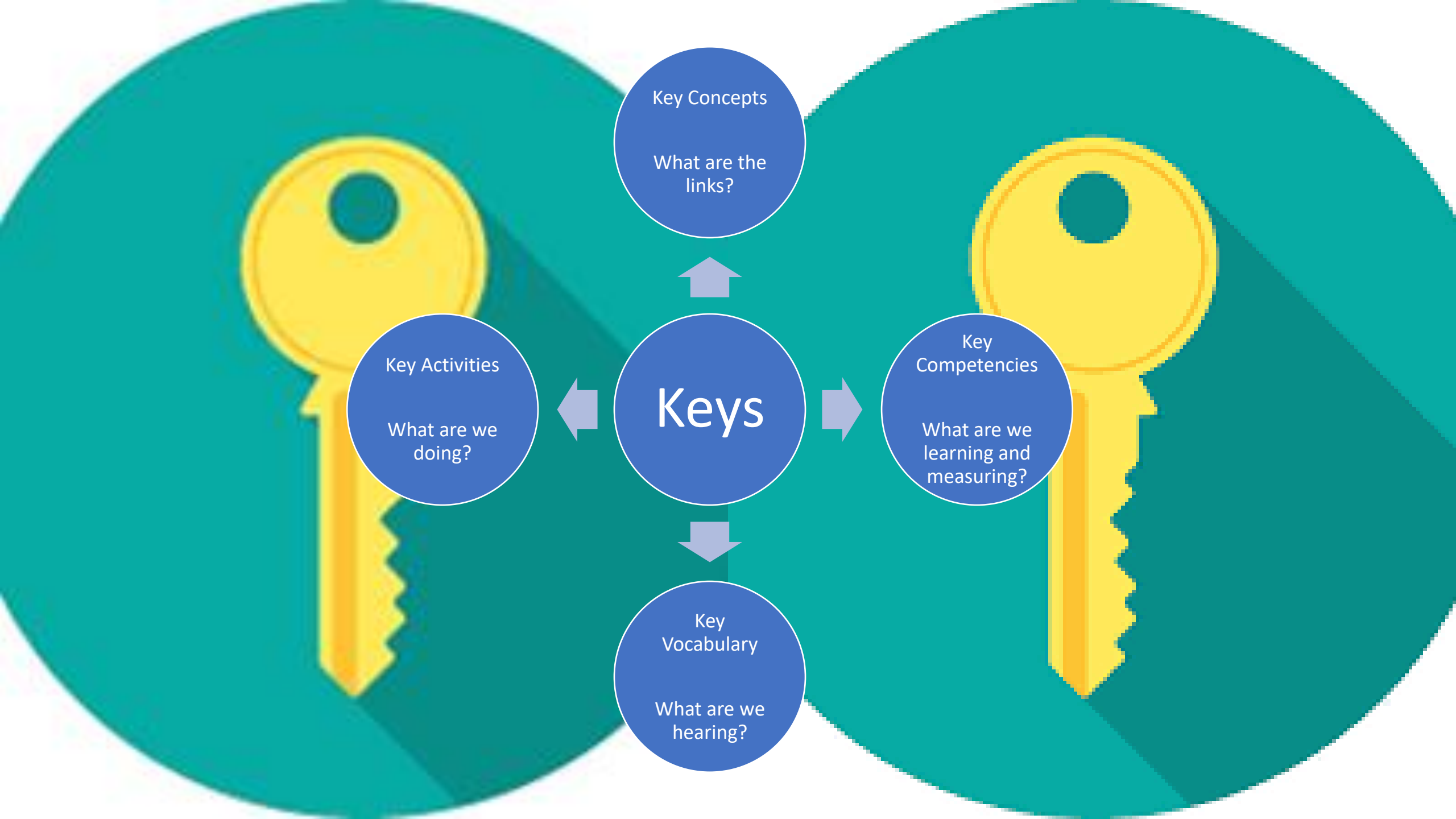
Electrical Systems			**Simple Circuits and switches** Use annotated sketches, cross sectional and exploded diagrams to develop and communicate ideas. Select and use tools with some accuracy to cut, shape, join and finish. Use construction materials and electrical components according to their functional properties and aesthetic qualities. Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers.	**Simple programming and control** Gather information and develop and communicate realistic design ideas using annotated sketches and prototypes. Connect simple electrical components in a series circuit and program an interface to enhance the way the product works. Investigate and analyse a range of powered products, including programmed, and evaluate their own products and design criteria. Understand and use computing to program and control products with electrical systems.	**Monitoring and Control** Develop a design specification for a product that responds automatically to environmental changes in the environment. Generate and communicate ideas through annotated sketches and representations of electrical circuits or circuit diagrams. Using a step-by-step plan, select and accurately assemble materials, electrical components, to produce a functional product. Create and modify a computer control program to enable their electrical product to respond to changes in the environment.	**More complex switches and circuits** Develop a design specification for a functional product that responds automatically to changes in the environment. Formulate a step-by-step plan to making, listing tools, equipment, materials and components. Use a computer control program to enable an electrical product to work automatically in response to changes in the environment. Test and evaluate the system to demonstrate its effectiveness for the intended user and purpose. Know and use technical vocabulary relevant to the project.

Key Competencies

IMPLEMENTATION

TOPIC OVERVIEW

Year Group	Autumn	Spring	Summer
1	Textiles Making a Christmas ornament	Mechanisms Making a moving picture	Structures Making a miniature playground
2	Structures Design and create a house from 1666	Textiles Make a finger puppet.	Mechanisms Plan and design a moving vehicle including wheels and axels.
3	Mechanisms Moving christmas cards	Textiles Coin purse/wallet	Structures Food packaging
4	Textiles Plan and create their own hanging felt Christmas decoration.	Mechanisms Create their own moving monster toy using a pneumatic system to open the mouth	Structures Plan and design a chocolate packaging as part of the Aztec topic Electrical Systems Taught within Science Topic
5	Mechanisms and electrical systems **Toys made from recycled materials**	Structures CAD design, frame structures **Eiffel Tower Models-** link to history topic.	Textiles Textiles, combining different fabric shapes - **Upcycling old clothing** link to 'Where do our clothes come from?' topic in Geography.
6	CAD and textiles Shell structures using computer aided design To make a bag for an adventure in the Amazon	Structures To create a bridge to hold a certain weight.	Textiles Keyrings


Key Concepts
What are the links?
Key Activities
What are we doing?
Keys
Key Competencies
What are we learning and measuring?
Key Vocabulary
What are we hearing?

Reception

DT in the EYFS

- The EYFS framework is structured very differently to the national curriculum as it is organised across seven areas of learning rather than subject areas. The aim of this document is to help subject leaders to understand how the skills taught across EYFS feed into national curriculum subjects.
- This document demonstrates which statements from the 2020 Development Matters are prerequisite skills for DT within the national curriculum. The table below outlines the most relevant statements taken from the Early Learning Goals in the EYFS statutory framework and the Development Matters age ranges for Three and Four-Year-Olds and Reception to match the programme of study for DT.
- The most relevant statements for DT are taken from the following areas of learning:
  - Physical Development
  - Expressive Arts and Design

DT		
Three and Four-Year-Olds	Personal, Social and Emotional Development	• Select and use activities and resources, with help when needed. This helps them to achieve a goal they have chosen or one which is suggested to them.
	Physical Development	• Use large-muscle movements to wave flags and streamers, paint and make marks. • Choose the right resources to carry out their own plan. • Use one-handed tools and equipment, for example, making snips in paper with scissors.
	Understanding the World	• Explore how things work.
	Expressive Arts and Design	• Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park. • 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. • Create closed shapes with continuous lines, and begin to use these shapes to represent objects.
Reception	Physical Development	• Progress towards a more fluent style of moving, with developing control and grace. • Develop their small motor skills so that they can use a range of tools competently, safely and confidently. • Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor.
	Expressive Arts and Design	• **Explore, use and refine a variety of artistic effects to express their ideas and feelings.** • **Return to and build on their previous learning, refining ideas and developing their ability to represent them.** • **Create collaboratively, sharing ideas, resources and skills.**

ELG	Physical Development	Fine Motor Skills	• Use a range of small tools, including scissors, paintbrushes and cutlery.
	Expressive Arts and Design	**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.**

Year 1

Cooking Autumn 2 - Cookies

NC PoS	Key Concepts Link	Key Knowledge and Pathway	Vocabulary	Activity
Evaluate § explore and evaluate a range of existing products § evaluate their ideas and products against design criteria	**Developing, planning and communicating my ideas** I can generate my own ideas to make something I can explain to someone else how I want to make my product. I can make a simple plan before making. I can describe how something works. **Working with tools** I can use resources and tools correctly, e.g. scissors. I can cut, shape and join materials. **Evaluating** I can say what I like/dislike about existing/my products.	**Food** I can develop my knowledge of basic healthy eating messages. I can develop the skills to safely use a range of basic cooking equipment (e.g. knife, chopping board, spoon, fork, bowl). I can cut food safely.	**Healthy -** in a good physical or mental condition. **Unhealthy -** harmful to health. **Moderation –** the avoidance of having too much (excess) **Equipment -** the necessary items for a particular purpose. **Safely -** in a way that is not likely to cause or lead to harm or injury. **Ingredients -** any of the foods or substances that are combined to make a particular dish.	**1. How can I use cooking equipment safely?** Children to learn about healthy and unhealthy food in moderation. Children design their Christmas cookie based on the ingredients provided. Children to learn how to use equipment safely when creating their cookies e.g. cookie cutters, spoons and knives.

Spring 2 – DT- Mechanisms- Moving picture books

NC PoS

Pupils should be taught to:

Design

- Design purposeful, functional, appealing products for themselves and other users based on design criteria
- Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.

Make

- Select from and use a range of tools and equipment to perform practical tasks.

Evaluate

- Explore and evaluate a range of existing products
- Evaluate their ideas and products against design criteria and consider the views of others to improve their work

Technical knowledge

- Apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- Understand and use mechanical systems in their products

Key Concepts Link

Guided research about specific materials, features and design of the product to be made.

Research to be fed into planning to produce a prototype of product to be created.

Prototype to be evaluated before producing final design/product.

Create final product using evaluations to inform production.

Use discussion to introduce technical vocabulary at appropriate stages throughout the design and production process.

Key Competencies

Mechanisms

I can generate ideas and simple design criteria.

I can develop and communicate ideas through drawings and mock-ups.

I can select a range of tools and equipment and materials to perform practical tasks.

I can explore sliders, levers and wheels and evaluate their ideas and products against original criteria.

Vocabulary

Mechanism - components acting together to make an action take place

Slider - An object moved in a particular direction through the mechanism of pull.

Lever - a bar which turns around a point/pivot

Pivot - a point about which a lever turns.

Prototype – A test or original that improvements can be made

Direction - The path along which something moves.

Criteria - Steps that make a design/product successful.

Template - a piece of material used for the processes of designing.

Activity

1. **What is a mechanism?**
Children to explore a range of moving picture books. Children to recognise how the pictures move and focus on creating a mechanism, first creating a prototype. Children the use templates to create a slider picture of their own.
Broaden – What direction is the picture moving? What is creating that movement?

2. **How can I make my mechanism work efficiently and for purpose?**
Children to explore a range of objects with simple mechanisms. Children to create a simple lever prototype. Explore what happens when the split pin is too tight and how to use the split pin safely. Children to use templates to create a lever picture of their own.
Extend – What is difference between a slider and lever mechanism?

3. **Which mechanism will be the most appropriate for my design?**
Children to design their own moving picture card using their previous knowledge of sliders and levers. Children to find the purpose of their moving picture and appropriately design their background and pictures for this purpose.
Challenge – What do you want your Easter card to be able to do? Which mechanism will help you create this?

4. **What will I need to create my moving picture card?**
Children to use their design to collect the templates and tools needed to create their own moving picture card.
Expand - Can they improve their chosen mechanism from the first time they made one? What could they do differently?

5. **How could I improve my design?**
Class showcase
Children to evaluate each other's moving picture cards. Children to evaluate their own work and make any changes to needed to improve it.
Enrich – How can we share our thoughts about others work in a kind way? How can we suggest how it could be improved?

DT (Cooking) - Spring 2 – Fruit Kebabs

NC PoS	Key Concepts	Key Competencies	Key Vocabulary	Key Activities
Evaluate § explore and evaluate a range of existing products § evaluate their ideas and products against design criteria	**Developing, planning and communicating my ideas** I can generate my own ideas to make something I can explain to someone else how I want to make my product. I can make a simple plan before making. I can describe how something works. **Working with tools** I can use resources and tools correctly, e.g. scissors. I can cut, shape and join materials. **Evaluating** I can say what I like/dislike about existing/my products.	**Food** I can spoon ingredients between containers. I can measure using a spoon or count ingredients. I can follow simple instructions given one at a time by an adult.	**Healthy -** in a good physical or mental condition. **Unhealthy -** harmful to health. **Moderation –** the avoidance of having too much (excess) **Equipment -** the necessary items for a particular purpose. **Safely -** in a way that is not likely to cause or lead to harm or injury. **Ingredients -** any of the foods or substances that are combined to make a particular dish.	**6. How can I use cooking equipment safely?** Children to learn about healthy and unhealthy food in moderation. Children design their fruit kebab based on the ingredients provided. Children to learn how to use equipment safely when creating their kebab e.g. knife, spoons and whisk

DT – Summer 2- Freestanding Structures- A Miniature Playground

NC PoS

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

Key Concepts Link

Guided research about specific materials, features and design of the product to be made.

Research to be fed into planning to produce a prototype of product to be created.

Prototype to be evaluated before producing final design/product.

Create final product using evaluations to inform production.

Use discussion to introduce technical vocabulary at appropriate stages throughout the design and production process.

Key Knowledge and Pathway

Freestanding Structures

Generating design ideas; developing modelling and explaining using talk, mock-ups and drawings.
Planning making, selecting tools and new and recycled materials; using finishing techniques.
Exploring existing freestanding structures; evaluating their own products against original criteria.
Know about strengthening structures; knowledge of vocabulary.

Vocabulary

Freestanding structure – something that is able to stand upright on its own.

Design - decide upon the look and functioning of an object by making a detailed drawing of it.

Make – to form something by joining parts together

Product – something that is a result of a process.

Communicate - share or exchange information or ideas.

Join – to link or connect something.

Tools – a device used to carry out a particular function.

Resources – a source or supply of things you need.

Criteria - a principle or standard by which something may be judged or decided

Product - a thing that is the result of an action or process

Activity

1. What is a freestanding structure?
Children to gain an understanding of what is meant by the term 'structures' by looking for them in their environment. Identify structures within the playground and shapes they can see.
Broaden – Do you know any playground equipment? Why are they free standing structures?

2. What shapes can I see and make out of materials?
Children to identify shapes within a playground structure and recreate those shapes with a range of materials. Evaluate the shapes made.
Challenge – How can you join materials together to create other shapes?

3. What tools and resources will I need?
Children to list the criteria needed to create a free-standing structure. Children design their chosen playground structure.
Challenge – Can you label you structure and list equipment needed?

4. How can I cut and join materials?
Children to create the playground structure they have designed using a range of materials. Explore cutting and joining techniques.
Enrich – Can you manipulate materials and join them together to create the shape you need? Can you use equipment safely?

5. How can I improve my structure?
Children to showcase their playground structures and peer evaluate them. Identify what went well and how it could be improved .
Broaden – Can you explain why?

DT - Summer- Textiles- Felt mini-beasts

NC PoS	Key Concepts	Key Competencies	Key Vocabulary	Key Activities
Design *design purposeful, functional, appealing products for themselves and other users based on design criteria **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	**Developing, planning and communicating my ideas** I can generate my own ideas to make something I can explain to someone else how I want to make my product. I can make a simple plan before making. I can describe how something works. **Working with tools** I can use resources and tools correctly, e.g. scissors. I can cut, shape and join materials. **Evaluating** I can say what I like/dislike about existing/my products.	**Textiles** <u>Templates and Joining</u> Design a functional, appealing product for a chosen user and purpose. Generate, develop, and communicate ideas. Use a range of textiles, tools and equipment to perform practical tasks. Explore and evaluate existing textile products and their own ideas and products. Understand how 3-D textile products are made, using joining, templates and finishing to create two identical shapes.	**Design** - decide upon the look and functioning of an object by making a detailed drawing of it. **Make –** to form something by joining parts together **Product –** something that is a result of a process. **Communicate -** share or exchange information or ideas. **Join –** to link or connect something. **Tools –** a device used to carry out a particular function. **Resources –** a source or supply of things you need.	**1. How can we remember those who fought in the war?** Recall discussions in History about Remembrance Day – identify significant images that the Children can use to create a class poppy wreath to hang on the door. **2. What is my product going to look like?** Children to be shown examples of felt ornaments. Children to plan the design for their own felt ornament, thinking about shape and decoration. **3. What tools and resources do I need?** Children to think about how they are going to create their product they have designed, identifying and selecting the correct tools and resources. **4. How can I join these materials together?** Children to practice using needles safely using an embroidery mat. Once children have practiced needlework, they can work with the teacher to apply this knowledge and join their two shapes together. **5. How could I improve my work?** Children to showcase their hanging ornaments. Children to analyse their product and talk about what they like and dislike.

Year 2

DT- Autumn 1- Tudor Houses

NC PoS	Key Concepts Link	Key Competencies	Vocabulary	Activity
Design **Generate, develop, model and communicate their ideas through talking, drawing, templates, mock ups.** **Make** **Select from and use a range of tools and equipment to perform practical tasks (cutting, shaping, joining, finishing)** **Evaluate** **Evaluate their ideas and products against design criteria.** **Technical Knowledge** **Build structures, exploring how they can be made stronger, stiffer and more stable**	**Subject Intent** Guided research about specific materials, features and design of the product to be made. Research fed into planning to produce a prototype of product to be created. Create final product using evaluations to inform production. Use discussion to introduce technical vocabulary at appropriate stages throughout the design and production process	**Design – Lesson 1** To generate design ideas; developing modelling and explaining using talk, mock-ups and drawings. To identify at least one feature my product needs to have, to be successful. To create a labelled picture of my idea. **Make -Lesson 2/3** To investigate materials and choose suitable ones to make my product. To join materials/components in different ways. To know about strengthening structures, knowledge of vocabulary. Planning, making, selecting tools and new and recycled materials; using finishing techniques.	Tudor house Jetty Wattle and daub Timber frame Gabled roof Wooden shutter Stone chimney Materials Tools Design Ruler Measure Labels Masking tape Glue gun	**Lesson 1- Design** • The children will have a selection of pictures to discuss and explore in groups to discuss the features of the structures. What are the similarities between them? Look at the way the second level over hangs the lower level.(jetty) Identify the wooden frames on each one. Look at the shape of the windows and doors. The children can label each part of the houses idenitifying the timber frame, wattle and daub roof, wooden shutters, stone chimney etc. Discuss where they have placed them and how houses where made. •Show the children a variety of photos of Tudor houses already made out of junk boxes. Ask them to discuss what they like and dislike about each one. discuss the resources they think they might need to make a model like these. Ie two boxes, one large and one small, flat card for the roof, lollypop sticks for the timber frame, scissors, tape, white paint, black paint etc… •Model to children how to design a tudor house on the white board. Show them how to draw the smaller box on the bottom (jetty), larger box on the top, the roof, the shutters, the window. Model how to use rulers to create the correct shapes and sizes. Scaffold less able children by providing them with pre cut shapes to draw around, or tracing design if required. •Once children have drawn their design, discuss the materials that will be available for them to use and show them examples. Model to children how to label their designs with the materials from the picture list. •Allow children time to present their designs to an audience. Can they describe what they are making and the materials they intend to use? CHALLENGE - Children should be able to identify the materials they are going to use and why? **Lesson 2/3 - Make** •In order for children to receive adult support with joining and cutting skills this would be delivered ideally in small groups, with children creating a model in pairs. You may require 2-3 lessons to create the finished product. •You may want to follow this link: https://www.youtube.com/watch?v=vx3I8ebV0eY EXTEND – What would we have done differently?

Subject – DT Materials and Buildings around us- Carried over from Autumn Term 1

NC PoS	Key Concepts Link	Key Competencies	Vocabulary	Activity (Make links with Science topic-materials and History-houses in 1666)
Design Deign purposeful, functional, appealing products for themselves and others based on design criteria **Make** Select from and use a range of tools and equipment to perform practical tasks (cutting, shaping, joining, finishing) Select materials from a wide range of materials **Evaluate** Explore and evaluate a range of existing products **Technical Knowledge** Build structures, exploring how they can be made stronger, stiffer and more stable Explore and use mechanisms	**Subject Intent** Guided research about specific materials, features and design of the product to be made. Research fed into planning to produce a prototype of product to be created. Create final product using evaluations to inform production. Use discussion to introduce technical vocabulary at appropriate stages throughout the design and production process	**Make – Lesson 2/3** I can investigate materials and choose suitable ones to make my product. I can join materials/components in different ways. I am beginning to use finishing techniques to make my products more appealing. **Evaluating Process: Lesson 4** To explore existing freestanding structures; evaluating their own products against original criteria. I can say what I like/dislike about existing products. I can say what went well with my product. I can say one thing I would change to improve my product.	**Lesson 2/3** Measure Score Mark out Ruler Length Join/assemble Stable/strong instructions **Lesson 4** Evaluate Improve Advice Recommendations	**Lesson 2/3 continued:** •Model to children how to create the basic structure. Model how to join two boxes together to create the jetty and how to measure and cut out the roof shape. Discuss with children how to make the structure strong so it does not fall apart once painted. You may decide to use either glue or tape. •Children will then need to either paint their model white and leave to dry or wrap their house with white paper. •Children will then need to cut out and create the windows, doors and timber framework from the resources available. •Support will be required with using the tools safely, using a ruler accurately and joining the materials securely. It is important to develop children's independence and not do it for them. The cardboard materials used should not be too thick for the children to cut. CHALLENGE – Can the children use flaps into the boxes to create windows and doors? **Lesson 4- Evaluate** •In pairs children could create their own video clip where they present their finished model. Ask children to think about the following key questions. •How did you make your house? •What did you enjoy about making the house? •Which part of the house was the easiest to make? •What did you find difficult? •Did you learn any new skills? •If you were going to do this again, what would you do differently? The teacher could assemble the evaluation clips and create a class film for classes to use next year. EXTEND – Can the children identify what they would do differently and give advice for another person thinking about completing this exercise?

Subject – DT Autumn 2 - Shortbread

NC PoS	Key Concepts Link	Key Knowledge and Pathway	Vocabulary	Activity
As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. To use the basic principles of a healthy and varied diet to prepare dishes. To understand where food comes from.	**Subject Intent** Guided research about specific materials, features and design of the product to be made. Research fed into planning to produce a prototype of product to be created. Create final product using evaluations to inform production. Use discussion to introduce technical vocabulary at appropriate stages throughout the design and production process	**Lesson 1:** I can design a biscuit. **Lesson 2:** I can explain how to work with food hygienically. I can follow a simple recipe supported by an adult. I can measure, with support, the correct amount of flour, sugar, and butter in grams. I can rub in fat to flour. I can knead dough. I can spoon ingredients between containers. I can roll dough into four equal portions using my hands. I can develop the skills to safely use a range of basic cooking equipment including a teaspoon, tablespoon, a cup, a bowl, digital scales and an oven. **Lesson 3:** I can evaluate my product, explaining what I like and what can be improved.	Cooking Knife Spoon Fork Bowl Whisk Rub Knead recipe	**Lesson 1:** **Design a shortbread biscuit shape.** Link to history topic- Discuss who Thomas Farriner was and what he was doing when the Great Fire of London started. Discuss how Thomas Farriner baked biscuits for King Charles 2nd's Navy. They were sent off to sea in barrels aboard the giant naval ships. Explain that we will be making our own shortbread biscuits. Children to look at a range of shortbread designs. In groups, children can discuss what they like and dislike about each design and discuss which designs they would like to create when they make their shortbread. **Lesson 2:** **Making shortbread biscuits** Children will make their own shortbread biscuit using butter, sugar, plain flour and chocolate chips. (See recipe) Model how to follow the recipe and model using each piece of equipment e.g spoon, fork, bowl, scales. The children will follow the recipe with adult support to create their shortbread. They can then use a fork or a knife to add detail to their shortbread. **Lesson 3:** Evaluate- Children to evaluate their shortbread biscuit. Ask children to think about the following key questions: How did you make your biscuit? What did you enjoy about making the biscuit? Did you learn any new skills? Do you like the way it looks? Yes/No? Why/Why not? Do you like the way it tastes? Why/Why not? How could it be improved? Did you face any problems? How did you overcome them?

DT (Cooking) – Spring 1- Healthy Wraps

NC PoS	Key Concepts What are the links?	Key Competencies What are we learning and measuring?	Key Vocabulary What are we hearing?	Key Activities What are we doing? (Context)
As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. To use the basic principles of a healthy and varied diet to prepare dishes. To understand where food comes from.	To guide research about specific materials, features and design of the product to be made. Create final product using evaluations to inform production. Use discussion to introduce technical vocabulary at appropriate stages throughout the design and production process.	Lesson 1: • To classify different food groups and describe basic healthy eating messages. Lesson 2: Plan/ Design • To create a labelled picture of my idea. Lesson 3: Make • To follow and complete a simple recipe supported by an adult. Lesson 4: Evaluate • To evaluate what I have made.	**Eat well plate** - The eat well plate is designed to make healthy eating easier. Eat foods from each group on the eat well plate in the correct amounts each day. Carbohydrates, fats and sugars, protein, fruits and vegetables and dairy. **grater** – A device having a surface covered with holes edged by slightly raised cutting edges, used for grating cheese and other foods. **Method** – A certain way of doing something. **Equipment** – A list of things needed. **Personal hygiene** – Personal hygiene is a collection of habits that people perform to keep themselves clean and their bodies healthy. **Cross contamination** – Is how bacteria can spread. It occurs when juices from raw meats or germs from unclean objects touch cooked or ready-to-eat foods. **Allergies** - Allergies are abnormal immune system reactions	Lesson 1: Healthy eating messages Revisit from Science. Explore the question 'How do we know if our food is healthy?' Discuss which parts of the eatwell plate we should try to limit in our diet such as sugar and fat. Explain that many drinks and foods that we would not expect to contain sugar, do in fact have sugar added to them (e.g bread, ketchup, spaghetti sauce, soup, yoghurt, baked beans). Children to classify packaging and order from most to the least sugary.-group work followed by looking at contents on packaging. Ask the children to look at the drinks containers and find the information about the contents of the drink. Lesson 2: Plan/design Investigate the question- 'Is it a good idea to eat just fruit and vegetables in our diet?' Children will design a healthy wrap. Create a success criteria as a class e.g: The wrap must be healthy, include a protein, vegetable and dairy product, tasty but not expensive Lesson 3: Make The children can make their own healthy wrap using their design from the previous lesson. The children will follow the recipe using their choice of ingredients with adult support. Teachers to model how to chop the salad using the bridge technique and model how to grate the cheese. Lesson 4: Evaluate Children to evaluate their wrap from the previous lesson answering the following questions; What did you like about your wrap? Do you like the way it looks why/why not? Is your wrap healthy? Explain your answer. How could it be improved? What variation would you like to try?

DT –Spring 2- Textiles- Finger puppets.

NC PoS	Key Concepts	Key Competencies	Key Vocabulary	Key Activities
Design Deign purposeful, functional, appealing products for themselves and others based on design criteria **Make** Select from and use a range of tools and equipment to perform practical tasks (cutting, shaping, joining, finishing) Select materials from a wide range of materials **Evaluate** Evaluate their ideas and products against design criteria	To guide research about specific materials, features and design of the product to be made. Create final product using evaluations to inform production. Use discussion to introduce technical vocabulary at appropriate stages throughout the design and production process.	Textiles: Templates and joining techniques Lesson 1: Design To know how to design a functional, appealing product for a chosen user and purpose. To generate, develop and communicate ideas. Lesson 2 – Prototype To use a range of textiles, tools and equipment to perform practical tasks. Lesson 3 and 4: Make To understand how 3 textile products are made, using joining, templates and finishing to create two identical shapes. Lesson 5: Evaluate To explore and evaluate existing products and their own ideas and products.	Materials Fix Secure Attach Join Template Technique Idea Product Join Shapes Tools Link	Lesson 1: Can you design a finger puppet of a character from Grandad's Island? Children to explore a range of existing finger puppets. What do you like about them? What could be improved? The children can then design their own puppet (linked to our English text- Grandad's Island) which they will make in the next lesson. What materials will you need for your product? What tools will you need to make your product? How will you join the materials? EXTEND – Which materials do you think will be effective for making your finger puppet and why? Lesson 2: Prototype Working in small groups with an adult, the children will learn how to thread the thread into the needle and create a simple running stich on their practise material before learning how to join the material using thread. What works well? What will you need to do to improve it for your final product? ENRICH – How could you improve your stitching and how will you change this when you make your product? Lesson 3 and 4: Make Working in small groups with an adult, model how to create a template on card and cut it out. Repeat this for the identical shape. Use the template to cut out the felt material to the desired shape. The children can then use the running stitch they practised in their prototypes to join the two identical shapes together using the needle and thread. The children can then use a range of materials such as fabric, felt, foam paper, ribbon, buttons and fabric pens to decorate their product. * Remember to take a picture of the finished products to put in the green topic books. EXTEND – Why have you chosen that material to make your finger puppet? Which materials work well and what would you like to try next time? Lesson 4: Evaluate Evaluate their products. Ask children to think about the following key questions. •How did you make your puppet? •What did you enjoy about making it? •Which part of the puppet was the easiest to make? •What did you find difficult? •Did you learn any new skills? •If you were going to do this again, what would you do differently? CHALLENGE- What would your advice be to someone else making a finger puppet?

Subject – Cooking- Summer 1- Bread

NC PoS	Key Concepts Link	Key Knowledge and Pathway	Vocabulary	Activity
As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. To use the basic principles of a healthy and varied diet to prepare dishes. To understand where food comes from.	Guided research about specific materials, features and design of the product to be made. Research fed into planning to produce a prototype of product to be created. Create final product using evaluations to inform production. Use discussion to introduce technical vocabulary at appropriate stages throughout the design and production process	I can explain how to work with food hygienically. I can follow and complete a simple recipe supported by an adult I can whisk using a fork. I can measure referring to ingredients in simple fractions. I can cut using a table knife to cut into equal portions. I can knead dough. I can evaluate what I have made	Whisk with a fork - until mixture is combined. Creating a lighter mixture by adding air. Measure using simple fractions – cut the dough in half Knead -to work and press into a mass. Fold, push, turn and press the dough. It alters the texture of the bread.	<u>Design:</u> The children will create a simple design for their bread shape, based on the current topic of journeys. CHALLENGE- Can you make an alternative design? Which design will you choose to make your product? Why? <u>Make</u> Before the cooking session, discuss the food hygiene rules. The children will make their bread roll using; white bread flour, fast-action dried yeast, sugar, teaspoon salt, olive oil, milk. Share the method with the children. Discuss skills they will be learning/using. • Kneading • Mixing • Measuring • Cutting into equal portions Teachers will model each stage of the recipe step by step for the children to follow. BROADEN- How is this similar/different to the other recipes we have used this year? How have you developed your skills? <u>Evaluate</u> Evaluate- Children to taste and evaluate their bread. Ask the children to think about the following key questions: How did you make your bread? What did you enjoy about making the bread? Did you learn any new skills? Do you like the way it looks? Yes/No? Why/Why not? Do you like the way it tastes? Why/Why not? How could it be improved? Did you face any problems? How did you overcome them? BROADEN- Which variation would you try next time and why?

Subject – DT- Summer 2- Wheels and Axels- Moving Vehicles

NC PoS

Design:
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]

Evaluate:
evaluate their ideas and products against design criteria

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

Key Concepts Link

Subject Intent
Guided research about specific materials, features and design of the product to be made.

Research fed into planning to produce a prototype of product to be created.

Create final products using e valuations to inform production.

Use discussion to introduce technical vocabulary at appropriate stages throughout the design and production process

Key Knowledge and Pathway

Wheels and axels:
I can explore wheels and axels, understanding the types of movement and using technical vocabulary.

I can identify and explain at least one feature my product needs to have, to be successful.
I can produce a labelled picture of my idea.

Technical knowledge:
I can use mechanisms, e.g. levers, sliders, wheels and axles, in my products.
I am beginning to use finishing techniques to make my products more appealing.

Evaluation:
I can explain what I like/dislike about existing products.
I can explain what went well with my product.
I can explain one thing I would change to improve my product.

Vocabulary

Axle – a rod on which one or more wheels can rotate, either freely or be fixed to and turn with the axle.

Axle holder – the component through which an axle fits and rotates.

Chassis – the frame or base on which a vehicle is built.

Friction – resistance which is encountered when two things rub together.

Dowel – wooden rods used for making axles to hold wheels

Activity

1. Design:
Children to be given the opportunity to explore a range of existing products that include wheels and axels e.g toys including cars, bikes, skateboards, tractors etc. Are there any other products that we use in our everyday life that include wheels and axels? E.g wheel barrows, hamster wheels etc
Explain that we are going to be making a moving vehicle using the wheels and axels mechanism. Children to generate a success criteria and identify and explain at least one feature their product will need in order to be successful. The children will then create a labelled design of their product using the technical vocabulary.
Extend: Can you explain why it is important to create a labelled design as a designer/engineer?
2. Make
The children will use their designs and their success criteria to create their own vehicle using the wheels and axels kits which include cardboard, wheels and axels. Can you use any finishing techniques to make your product more appealing? The children can choose from a range of materials to make their product more appealing including; paint, tin foil, sequins, pens, pencils, fabric etc.
EXTEND: Which materials were the most suitable and why? What could you change to make your vehicle more effective?
3.Evaluate:
The children will evaluate their product against their design criteria.
How did you make your vehicle?
What did you enjoy about making it?
Did you learn any new skills?
Do you like the way it looks? Yes/No? Why/Why not?
Is your product successful? Why/why not?
How could it be improved?
Did you face any problems? How did you overcome them?
Is your product successful?
ENRICH: What advice would you give to next year's year 2 class when they are

Year 3

DT – Autumn 2- Mechanisms- Moving Christmas Cards

NC PoS

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 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

KEY CONCEPTS

Guided research

Prototype production

Evaluation

Final product informed by prototype

Discussion

Technical vocabulary

KEY COMPETENCIES

Developing, planning and communicating ideas

I can discuss existing products.
I can identify some of the features my product needs to be successful.
I am beginning to understand that my product might be useful to a certain group or individual.
I can make a clear, labelled sketch of my design.
I can practise/test my skills, e.g. stitching, mechanisms.

Working with tools, equipment, materials and components to make quality products

I can use tools/equipment safely and correctly.
I can suggest one reason why some materials/components might be suitable to create my products.
I am beginning to use finishing techniques more consistently to make my products more appealing.

Technical Knowledge

Most of my product is strong and stable.
I can use mechanical systems in my products, e.g. gears, pulleys, cams, levers and linkages.

Evaluating processes and products

I can identify one positive feature of an existing product. I can identify one positive feature of my own product or the product of another.
I can make one improvement to my work.

Levers and Linkages

Generate realistic ideas and use annotated sketches and prototypes to develop, model and communicate ideas.
Select and use tools with some accuracy to cut, shape and join paper and card.
Investigate and analyse their own and others' products with lever and linkage mechanisms.
Understand and use lever and linkages, and fixed and loose pivots.

KEY VOCABULARY

User
Purpose
Function
Prototype
Design Brief
Design Criteria

Input
Output

Mechanism
Lever
Linkage
Loose pivot
Fixed Pivot
Slot
Guide/Bridge

KEY ACTIVITIES

Children to investigate, analyse and evaluate products which have a range of lever and linkages mechanisms. Use questions to develop children's understanding e.g. Who might it be for? What is its purpose? What do you think will move? How will you make it move? What part moved and how did it move? How do you think the mechanism works? What materials have been used? How effective do you think it is and why? What else could move? Extend: What if there was no pivot?

Teacher demonstrates a range of lever and linkage mechanisms to the children using prepared teaching aids. Use questions to develop children's understanding e.g. Which card strip is the lever? Which card strip is acting as the linkage? Which part of the system is the input and which part the output? What does the type of movement remind you of? Which are the fixed pivots and which are the loose pivots?Teacher demonstrates the correct and accurate use of measuring, marking out, cutting, joining and finishing skills and techniques. Pupils work in small groups to produce a range of different lever and linkage mechanisms using existing templates. Challenge: Make a different lever system using the card.

As a whole class develop the design brief with the children: to design a Christmas card for parents or grandparents. Discuss with pupils the purpose of the product they will be designing and making and who the product will be for. Ask the pupils to agree the key themes of the card. To generate a range of ideas, encouraging creative responses. Agree on design criteria that can be used to guide the development and evaluation of the children's products. Extend: Explain which design is your favourite, and how it will work using the key words.

Pupils should develop their knowledge and skills by undertaking a mini design and make activity using one of their lever/linkage templates to create a prototype card. This could replicate one or more of the teaching aids. Pupils evaluate their prototypes and using annotated sketches continue to develop, model and communicate their ideas. Challenge: What is the purpose of a prototype for designers?

Pupils work in teams to create ideas of what could move on the card. Pupils plan their own moveable Christmas card. Pupils are asked to consider the main stages in making before assembling high quality products, drawing on the knowledge, understanding and skills learnt through previous activities. Extend: Can you label the parts? Lever, Linkage, Fixed Pivot, Loose Pivot. Can you label the movement?

Pupils evaluate the final products against the intended purpose and with the intended user, drawing on the design criteria previously agreed. Peer evaluation also. Extend: Using your evaluation, explain how you would action your idea for improvement.

Subject – DT – Textiles (DT Association – Bendy Bags Project)

NC PoS

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 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

Key Concepts

Guided research

Prototype production

Evaluation

Final product informed by prototype

Discussion

Technical vocabulary

Key Competencies

Developing, planning and communicating ideas
I can discuss existing products.
I can identify some of the features my product needs to be successful.
I am beginning to understand that my product might be useful to a certain group or individual.
I can make a clear, labelled sketch of my design.
I can practise/test my skills, e.g. stitching, mechanisms.
Working with tools, equipment, materials and components to make quality products
I can use tools/equipment safely and correctly.
I can suggest one reason why some materials/components might be suitable to create my products.
I am beginning to use finishing techniques more consistently to make my products more appealing.
Evaluating processes and products
I can identify one positive feature of an existing product.
I can identify one positive feature of my own product or the product of another.
I can make one improvement to my work.
Textiles
2D Shape to 3D product
Generate design criteria for an appealing, functional product for specific users.
Produce annotated sketches, prototypes, final product sketches and pattern pieces.
Select fabrics and fastenings according to their functional characteristics.
Investigate a range of 3-D textile products.
Test their product against the original criteria and with the intended user.

Key Vocabulary

Designing
user, purpose, model, mock-up, evaluating, labelled drawings, stiffening, reinforcing

Making
pattern/templates, strength, weaknesses, accurate, finishing

Knowledge and Understanding
fabric, stitch, seam, seam allowance embroidery, applique

Properties
strength, hard-wearing, stretch, fray, flexible, stiff

Key Activities

1.What makes a good bag?
Pupils examine carefully a collection of simple textile containers e.g. purses, wallets, spectacle cases, draw–string bags. Focus on seams, size, fitness for purpose. What features can you identify? What would you put in it? Pupils make labelled drawings from different views showing specific features e.g. coin pocket, zip fastener. Pupils identify a general criteria for a textile bag.
EXTEND: What are the purposes of the bags you have examined? How do you know?

2. How do we join fabrics?
Pupils are introduced to the stitching technique – running stich, as a means to join fabric. Teacher demonstrates and allows pupils to practise. Point out to children that the seam takes up some of their fabric and that they need to allow for this in their measurements of their bag. Pupils apply running stitch independently on their binca bookmark.
BROADEN: Using the stitching guides, can you explore other stitches on the bookmark?

3. What is a design criteria? What are they for?
Whole class, discuss with the children the purpose and the user of the coin purse/wallet. Design, make and evaluate a coin purse (product) for myself (user) for keeping change safe (purpose). Pupils apply this understand to create design criteria's for different people (example characters in books). They then draw up their own simple design specification, putting the list of points in order with the most important ones coming first.
CHALLENGE: What would happen if we did not have design criteria?

4. How do we know if our designs will work?
Pupils use paper template to mock up their designs and choose suitable fabric. Pupils think about finishing techniques e.g. applique, embroidery.
EXTEND: How do your chosen finishing techniques suit your user and purpose?

5. Can I follow my plan?
Pupils construct their coin purse, measuring, cutting and joining fabric with some accuracy.
EXTEND: Review the progress you are making with your purse. How well is this working?

6. Is my bag successful?
Pupils evaluate the finished purses by testing in use, discussing strengths and areas for development of both appearance and function. Pupils complete peer assessments.
BROADEN: Where else could you apply the skills you have learnt?

DT/Cooking Spring 1 - Bread Rolls & Sandwiches

NC PoS	Key Concepts	Key Competencies	Key Vocabulary	Key Activities
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	Production Evaluation	.I can name some of the food group that are part of a healthy diet. I can prepare a variety of dishes. I can use tools/equipment safely and correctly. (grater, peeler, knife) I can follow a simple recipe with guidance from an adult. I can explain how to work with food hygienically.	Method – A certain way of doing something. Knead – To mix by pressing, folding, and pulling. Rise - To increase in height, size, volume Mix – Combine or put together to form one Equipment – A list of things needed. Personal hygiene – Personal hygiene is a collection of habits that people perform to keep themselves clean and their bodies healthy. Cross contamination – Is how bacteria can spread. It occurs when juices from raw meats or germs from unclean objects touch cooked or ready-to-eat foods. Allergies - Allergies are abnormal immune system reactions. grater – A device having a surface covered with holes edged by slightly raised cutting edges, used for grating cheese and other foods. Swivel peeler – A peeler is a special tool used for removing the skin from fruit. A swivel peeler has a special blade.	First session will be a tasting session. We will look at a variety of possible sandwich fillings. Children taste and evaluate foods and foods that these are paired with. Discuss and identify food groups and discussed the importance of a balanced diet. Children will design their sandwich. Second session Discuss hygiene rules. Share method with the children. Discuss skills they will be learning/using. • Knead • Mix Discuss vocab • Rise • Personal hygiene • Cross contamination • Allergies Show recipe step by step and children follow and complete their own. Third session – same day Children note changes in buns. Introduce new equipment • Grater • Swivel Peeler Children follow their design to create their sandwich. Children then taste their sandwich and evaluate what they have made.

Subject – DT/Cooking – Fruit Muffins

NC PoS	Key Concepts Link	Key Competencies	Key Vocabulary	Key Activities
• 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	production Evaluation	. • I can prepare a variety of dishes. • I can use tools/equipment safely and correctly. (grater, peeler, knife). • I can follow a simple recipe with guidance from an adult. • I can explain how to work with food hygienically.	**Rise** - To increase in height, size, volume Mix – Combine or put together to form one **Equipment** – A list of things needed. **Personal hygiene** – Personal hygiene is a collection of habits that people perform to keep themselves clean and their bodies healthy. **Cross contamination** – Is how bacteria can spread. It occurs when juices from raw meats or germs from unclean objects touch cooked or ready-to-eat foods. **Allergies** - Allergies are abnormal immune system reactions.	Discuss hygiene rules Follow the recipe with guidance. Children to make two different muffins. Deciding on preference and why. Evaluating taste and textures. Discuss key vocabulary.

Subject – DT – Summer 2- Structures- Scone packaging

NC PoS

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 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
understand and use electrical systems in their products
apply their understanding of computing to programme, monitor and control their products.

Key Concepts

Guided Research

Prototype

Final Product

Evaluations

Technical Vocabulary

Key Competencies

Pathway 1 -Developing, planning and communicating ideas
I can discuss existing products.
I can identify some of the features my product needs to be successful.
I am beginning to understand that my product might be useful to a certain group or individual.
I can make a clear, labelled sketch of my design.

Pathway 2 -Working with tools, equipment, materials and components to make quality products
I can use tools/equipment safely and correctly.
I can suggest one reason why some materials/components might be suitable to create my products.
I am beginning to use finishing techniques more consistently to make my products more appealing.

Pathway 3 -Technical knowledge
Most of my product is strong and stable.

Pathway 4 -Evaluating processes and products
I can identify one positive feature of an existing product.
I can identify one positive feature of my own product or the product of another.
I can make one improvement to my work.

Pathway 5 – Food
I can develop my knowledge of healthy eating messages.
I can develop the skills to safely use a range of basic cooking equipment (e.g. knife, chopping board, spoon, fork, bowl).
I can cut food safely.
I can grate soft foods e.g. cheese, cucumber.
I can identify different food groups.
I can name some of the food groups that are part of a healthy diet.
I can prepare a variety of dishes.

Pathway 8 –Structures
Generate and develop realistic ideas and design criteria collaboratively and through analysis of existing products.
Order the stages of making; selecting tools and using with some accuracy.
Investigate and evaluate shell structures, and construct strong, stiff shell structures.
Test and evaluate own products against design criteria and intended user and purpose.

Key Vocabulary

font
graphic

scoring
tabs
interlocking
adhesives
join

aperture
(3D) shape
net
shell structure

Key Activities

1. Food Tasting Scone Filling Lesson.

2. Why do we need food packages? Pupils list the jobs of food packaging. Pupils investigate and analyse a range of packaging, identifying key features with a clear labelled sketch.
   Challenge: What packaging would be suitable for *** food? Explain your reasons.

3. How is packaging formed? Pupils retrieve the jobs of food packaging. Pupils open and investigate the net shapes of existing packaging, developing understanding of tabs and apertures. Pupils create their own 3D shapes using 2D shapes and nets.
   Extend: Explore more complex 3D shapes.

4. What packaging is suitable for a scone? Pupils apply prior learning to plan and develop their own scone packaging, relating to purpose and audience.
   Expand: Explain your choices with reasons.

5. Pupils construct 3D packaging and use finishing techniques to complete.
   Expand: How have you problem solved and overcome design/making barriers?

6. Pupils follow a recipe and make their sweet and savoury scone. Pupils evaluate their own and peer packaging against the purposes of packaging.
   Expand: How would you address the even better ifs in future work?

Subject – DT/Cooking – Summer 2- Scones

NC PoS	Key Concepts	Key Knowledge and Pathway	Key Vocabulary	Key Activities
• 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	Pathway 4- Evaluating processes and products. Pathway 5- Food	• I can describe and apply my knowledge of healthy eating messages. • I can apply my skills to safely use a range of basic cooking equipment (e.g. knife, chopping board, spoon, fork, bowl). • I can cut food safely. • I can spoon ingredients between containers equally dividing mixture. • I can measure using a jug with support • I can cut out placing the cutter in positions to make best use of the material and avoid waste. • I can grate soft foods e.g. cheese, cucumber. • I can follow and complete a simple recipe with guidance from an adult. • I can apply my knowledge of how to work with food hygienically. • I can create a variety of dishes. • I can evaluate what I have made and suggest improvements.	grater – A device having a surface covered with holes edged by slightly raised cutting edges, used for grating cheese and other foods. Scale – Scale is defined as a system or series of marks used for measuring. Method – A certain way of doing something. Knead – To mix by pressing, folding, and pulling. Rise - To increase in height, size, volume Mix – Combine or put together to form one Equipment – A list of things needed. Personal hygiene – Personal hygiene is a collection of habits that people perform to keep themselves clean and their bodies healthy. Cross contamination – Is how bacteria can spread. It occurs when juices from raw meats or germs from unclean objects touch cooked or ready-to-eat foods. Allergies - Allergies are abnormal immune system reactions.	First session will be a tasting session. We will look at a variety of possible scone flavours. We will discuss pairings and what this means. The children will taste or smell flavours and decide and plan their two scone flavours. One sweet and one savoury. Challenge – Children explain why flavours work well using taste Second session Discuss hygiene rules. Share method with the children. Discuss skills they will be learning/using. • Knead • Mix • Cutting to avoid waste • Rubbing in Discuss vocab • Rise • Personal hygiene • Cross contamination • Allergies Show recipe step by step and children follow and complete their own. Third session – same day Children taste and evaluate their creations. Extend – Children peer evaluate scones giving constructive feedback.

Year 4

DT- Cooking – Autumn 1- Victorian Petits Fours

NC PoS	Key Concepts	Key Competencies	Key Vocabulary	Key Activities
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: Select from and use a wider range of materials and components, including ingredients. prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques	**Focused tasks in which children develop particular aspects of knowledge and skills.** **Designing and making activities in which children design and make 'something' for 'somebody' for 'some purpose'** **Reflect on personal achievement throughout the design and production stages.** **Children will be motivated by their creations and the hands-on approach Design Technology offers to learning**	<u>Pathway 5- Food</u> 1. LO: I can measure using digital scales with support. 2. LO: I can shape and mould to create visually appealing products. 2. LO: I can mix/stir to combine ingredients. 2. LO: I can cut out placing the cutter in positions to make best use of the material and avoid waste 2. LO: I can follow a simple recipe with guidance from an adult. 3. LO: I can evaluate the success of my product	Method Shortbread Cutter Precision Combine Rolling pin Unit of measure Rubbing Evaluation Temperatures Waste product Flaky Biscuit	1. What is the main ingredient in Petits fours biscuits that creates the sweet taste? Share design brief to children, link to Queen Victoria's love of shortbread. Have chn tried this dish before? What variations have they seen? Chn to examine the method and look at the food groups that are involved in the making process. Chn to experiment with scales and weighing out ingredients, think about about the different techniques needed when pouring flour and butter into a container. Extend: How will your design link to the design criteria? 2. What different techniques were needed for cooking this recipe? Recap hygienic rules of cooking to start. Children to assess their attire, do any changes need to be made? Eg tie long hair back. Recipe will be available for one between 2 for children to work through. Teacher to model set skills at the front of the class before the children copy. Challenge: How will you make sure there is little to no waste? How will the shapes affect this? 3. What was successful and what would you change for next time? After chn have tasted their product ask them to think about the texture and taste. Did they like what they created? Was it visually appealing as well as tasting nice? Chn to complete an evaluation form that allows them to think what they would change/ add next time. Extend: Can you peer evaluate your shortbread?

Subject –DT- Textiles- Christmas Decoration- Autumn 2

NC PoS	Key Concepts Link	Key Knowledge and Pathway	Vocabulary	Activity
When designing and making, pupils should be taught 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, select from and use a wider range of tools and equipment to perform practical tasks, select from and use a wider range of materials and components, including construction materials, textiles, evaluate their ideas and products against their own	**Guided research about specific materials, features and design of the product to be made.** **Focused tasks in which children develop particular aspects of knowledge and skills Designing and making activities in which children design and make 'something' for 'somebody' for 'some purpose'** **Having the opportunity to evaluate each other's work, through the design stage and finished product: Being allowed time to constructively feedback on each other's work.**	**Pathway 7- Textiles** 1. LO: I can identify who my product is for. 2. LO: I can construct a clear, labelled sketch of each part of my design 3. LO: I can apply my skills accurately. 4 and 5. LO: I can use tools and equipment safely and correctly. 6. LO: I can analyse my work and make any necessary improvements.	Product Brief Audience Materials Colours Decoration Design Label Sketch Stitch Running Cross Back Needle Fabric	1. Why do we design products with a specific audience in mind? Explain to children that at the end of the half term we will be hosting our own Victorian Street Fair and invite parents in to buy an item we make, money raised will go towards our charity 'Barnardos'. Explain that we will be designing Christmas decorations. Look at examples of decorations in Victorian times using iPads/Chromebooks and webpages. Who would have owned these? What purpose did they have? Introduce brief, and identify who product is going to be for (Rich Victorians at Christmas time, use of religious symbols) 2. How does our design fit with our brief? Reflect on design brief from last lesson. Which materials would be effective / ineffective? Children sketch out and design three different decorations (and label) after using QR codes to research Victorian Christmas decorations designs. Carousel feedback – explore their peers' designs. Children to evaluate which design would be most effective and why and choose the one they are going to create. Extend: How is your design similar/different to existing products? 3. Can you accurately sew using the different stitches? Ensure correct health and safety measures are included, as needles can be sharp. Model how to create different stitches (running, back, cross), children to experiment using a piece of fabric during a **rally coach.** Afterwards, discuss completed products. Is the stitch strong and stable? Does it currently fit the brief so far? Which stitch do you prefer and why? What materials have we used? What other materials could we have used if we lived in Victorian times? Teach children then to stitch another piece of fabric on top, lace and a sequin or bead. 4 and 5. Look back at last week's stitching techniques and recap our design brief. Children to use their planning sheets to begin making their decorations. Can you pick the most appropriate/stable stitch for each part of your product? Challenge: Which stitches would you use for each part and why? 6. Why is it important that we make changes to our designs? Now that the decorations have been created, children go back and look at their sketch designs. What changes need to be made? Discuss R.E. lessons and symbolism in Christianity. As we are looking at Victorian Christmas, can children add symbols to their designs? Extend: What would you change about your product and why?

DT – (Cooking) – Spring 2- Pizza

NC PoS	Key Concepts	Key Competencies	Key Vocabulary	Key Activities
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.	Activities which involve investigating and evaluating existing product- Taste tests Apply discussion about previous learning to establish prior knowledge in order for this to then be applied to the current task. Children will have regular opportunities to evaluate their learning and the product they are creating to enable them to assess their learning/ skills over time	**Pathway 5** - Food 1. LO: I can identify the food groups that are part of a healthy diet. 2. LO: I can use my knowledge of the food groups to plan my own healthy dish. 3 and 4. LO: I can use tools and equipment safely and correctly when preparing food. 4. LO: I can evaluate my meal and make necessary improvements.	Eat well plate Carbohydrates (bread) Vegetables Protein Fats Base Toppings Ingredients Equipment Grater Knife Hygiene	1. Discuss the eat well plate, why is this a popular topic in the news at the moment? Why is this incentive being pushed in schools? Research: where pizza comes from (geographical link with Naples), what pizza is made from, shapes and sizes of pizzas and toppings for pizzas. Market research – popular pizzas and toppings, interview family members. Extend: Why is the food plate important? What would happen if we only ate one type of food from the food plate? 2. Design their pizza: purpose and 4 labelled ideas. Discuss a healthy diet (different breads that could be used for the base and different vegetables that could be used for toppings). Highlight importance of allergies and alternative foods/ingredients. Sample a variety of toppings and bases to help inform their own design. Challenge: Can you explain why you chose those toppings? Which parts of the food plate do they relate to? 3. Planning: pick their favourite design and name their pizza. List ingredients and equipment needed. 4. Discuss basic hygiene rules and using tools safely. Class teacher to model kneading the dough and rolling it into a shape. Discuss the role of yeast and types of flour. Make their pizzas using bridge technique for cutting. 5. Discuss skills learnt and evaluate (both looks and taste). What would you change?

DT – pneumatic systems – Spring 2- Moving Monster Toy

NC PoS	Key Concepts	Key Competencies	Key Vocabulary	Key Activities
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. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Understand and use mechanical systems in their products.	Understand the concept that for something to be created it begins with a thought and then becomes part of a creative process to bring into being. It is this process we can all become part of by creating our own designs and products. Identify the skills needed to engage in the creative process with an effective and logical approach. This should ensure the final product created is of a high standard, follows the design brief and is fit for purpose. Consideration should be given to how objects we see daily work and are constructed fostering awe and wonder in each individual child	**Pathway 1: planning and developing ideas** **Pathway 3: Technical knowledge** **Pathway 6: Mechanisms and Pneumatics** 1. LO: I can investigate existing pneumatic products. 2. LO: I can evaluate a variety of existing products that use air to make them work. 3. LO: I can plan and design my own moving monster toy that uses a pneumatic system to open the helmet. 4. LO: I can make a toy with a moving pneumatic part. 5. LO: I can evaluate my product using my design brief and suggest improvements.	Pneumatic systems Syringe Balloon Pressure Force Air Compression Evaluate Design brief Mechanism Aesthetic Appealing Purpose Labelled diagram Measurement	PSHE Link – colour monster story. Historical link – how did Romans entertain themselves in colosseums? What games did children play? 1 and 2. Explore moving monster toys, balloon pumps, drills etc children to understand the process of a pneumatic system. Evaluate the positive and negatives of using a pneumatic system in a product. How effective are they? Experiment with resources to create compressed air. Extend: Why don't all toys use a pneumatic system? 3. After evaluating pneumatic systems and moving monster toys, children to plan and design their own toy fit for a toy store. Discuss the design brief and the mechanism. Market research – interview other children in year 2 and 3 to find out what makes a successful pneumatic toy. Children to use this in their plans. Children to calculate measurements and materials for each part of their toy. Challenge: How will we ensure the mouth opens smoothly? How can we design a product where the pneumatic system is hidden? 4. Using junk modelling, balloon, syringe and plastic piping, children will follow their plan to create their toy, ensuring it is powerful enough to open the mouth. Before completing, children will need to evaluate the aesthetic features of their toy by ensuring the pneumatic system is hidden. Does it meet the brief? How is it suitable for a child? Extend: What would you change about your product and why?

Subject – DT- Structures- Design chocolate packaging as part of the Aztec topic.

NC PoS	Key Concepts	Key Competencies	Key Vocabulary	Key Activities
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, school, leisure, culture, enterprise, industry and the wider environment].	Understand the concept that for something to be created it begins with a thought and then becomes part of a creative process to bring into being. It is this process we can all become part of by creating our own designs and products. Identify the skills needed to engage in the creative process with an effective and logical approach. This should ensure the final product created is of a high standard, follows the design brief and is fit for purpose. Consideration should be given to how objects we see daily work and are constructed fostering awe and wonder in each individual child	**Pathway 1: planning and developing ideas** **Pathway 3: Technical knowledge** **Pathway 8: Shell Structures** LO: I can investigate and evaluate existing shell structures. LO: I can test and evaluate my own product against a design criteria and suggest improvements. (prototype) LO: I can make a clear, labelled sketch of each part of my design (identifying who my product is for) LO: I can make a product that is strong and stable. LO: I can use finishing techniques consistently to make my products more appealing.	Net Package Sturdy Aesthetic Authentic Suitability Criteria Symmetry Colour Pattern Theme Logo	What makes a package appealing? Wrapper or packet? Explain what a shell structure is to children and share examples. Show children a range of packets and wrappers and 3D chocolate packaging. What makes us want to buy them? Rank them in order. Discuss how children ordered them and create a success criteria. Tell children about our brief – creating a 3D packaging to hold chocolate. Evaluate other 3D packaging in groups. Take part in market research, interview classmates, teachers and grown ups – Extend: what makes a package successful? How does the packet influence our buying decision? How successful is your own product against design criteria and intended user and purpose? After completing market research and initial evaluations, children to create prototype. Begin with experimenting with different nets and shapes. What works well? Which one do they like and why? Extend: Evaluate this in terms of aesthetics, sturdiness and suitability. What needs to change? What needs to stay? Plan and design packaging including measurements, additional details and the lid. Establish our audience (year 4 children after research) Consider how the user will access the chocolate. Is it resealable? Sturdy? Label with key details. Make final product. Decorate with finishing touches to make it more appealing for the target audience. How have you followed your plan? How will you ensure it is attractive? Extend: How will you make sure your product is stable? Evaluate final product. Carousel feedback: set up a mini exhibition for children to advertise their product. Children to make accompanying advert to support the 'selling' of their package to an audience.

DT (Cooking)– Summer 2- Pretzels

NC PoS	Key Concepts	Key Competencies	Key Vocabulary	Key Activities
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.	Activities which involve investigating and evaluating existing product- Taste tests Apply discussion about previous learning to establish prior knowledge in order for this to then be applied to the current task. Children will have regular opportunities to evaluate their learning and the product they are creating to enable them to assess their learning/ skills over time	**Pathway 5 - Food** LO: I can name some of the food groups that are part of a healthy diet. LO: I can use my knowledge of the food groups to plan my own dish. LO: I can use tools and equipment safely and correctly when preparing food. LO: I can evaluate my meal and make necessary improvements.	Eat well plate Carbohydrates (bread) Vegetables Protein Fats Flavourings Sweet/savoury Ingredients Equipment Rolling pin Knife Hygiene	Research: where pretzels come from, what a pretzel is made from, shapes and sizes of pretzels and different fillings/flavours. Market research – popular pretzel tastes- interview family members. Design their pretzel: purpose and 4 labelled ideas. Discuss a healthy diet (different breads that could be used and different fillings depending on sweet or savoury taste. Extend: What shapes work well? Why? Highlight importance of allergies and alternative foods/ingredients. Planning: Pick their favourite design and name their pretzel. List ingredients and equipment needed. Discuss basic hygiene rules and using tools safely. Make their pretzels Discuss skills learnt and evaluate (both looks and taste). Challenge: What variations would you like to try? How could you make your pretzel healthier?

Year 5

Subject – Cooking Autumn 1 **Context-** Cheese Twists

NC PoS	Key Concepts	Key Competencies	Key Vocabulary	Key Activities
Cooking and Nutrition 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:* - 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	*Guided research about specific materials, features and design of the product to be made. Research to be fed into planning to produce a prototype of product to be created. Prototype to be evaluated before producing final design/product. Create final product using evaluations to inform production. Use discussion to introduce technical vocabulary at appropriate stages throughout the design and production process.* **Key learning from knowledge organiser –** • I know the approximate portion size you should eat from each food group as part of a healthy diet. • I can measure food using digital scales independently. • I can follow a simple recipe independently. • I can explain and demonstrate how to work with food hygienically.	**Pathway 5 – Food** LO: to analyse the skills required in a given recipe and to justify the purpose of the equipment I will use. LO: to apply the skills learnt to a recipe and use tools/equipment safely with reasonable accuracy. **Pathway 4 - Evaluating processes and products** LO: to generate improvements to my final product based on my own evaluation.	***grater*** *- a device having a surface covered with holes edged by slightly raised cutting edges, used for grating cheese and other foods.* ***digital scale*** *- a measuring device that reads and displays the weight of an object.* ***method*** *- how a task is carried out.* ***knead*** *- to work and press into a mass with or as if with the hands* ***mix*** *- To stir two or more ingredients until mixture is thoroughly combined and uniform in texture.* ***equipment*** *- devices or appliances that can be utilized to prepare a meal* ***personal hygiene*** *- hygiene refers to a series of practices that preserve and protect the health from diseases*	**Skills –** -Retrieval Cops and Robbers – recipes and skills learnt in cooking in previous years. -Go through the recipe with the class. Analyse/ demonstrate each of the skills that they will be using e.g. kneading, mixing and grating (videos to watch). -Children to justify what piece of equipment they should use for each stage. -Go through the rules to ensure that the cooking is carried out safely and hygienically. **Application –** -Children will cook the cheese twists independently. -Adults available for support if the children need it. **Evaluation –** -Children will take part in a taste test and discuss their findings with their table. -Children will complete a self and peer evaluation form which includes a spider diagram. ***Expand*** *- Children will re write the recipe using their evaluations to help them e.g. if their cheese twist was not very cheesy, add more cheese to the ingredients list.*

DT- Autumn 2 - Solar system model (Mechanisms and electrical systems)

NC PoS	Key Concepts Link	Key Knowledge and Pathway	Vocabulary	Activity
Developing, planning and communicating ideas. Technical knowledge Evaluating processes and products Mechanisms Electrical systems	I can research a range of existing products. I can suggest ideas for my own design criteria. I understand that my product might be suitable for specific individual or group. I can create a product that has clear purpose. I can communicate my ideas through multiple annotated sketches. I can experiment with computer-aided design. I can make mock-ups to test my design. I can use a variety of techniques to strengthen my products. I can use a mechanical system in my products, e.g. gears, pulleys, cams, levers and linkages. I can judge whether my products/the products of others match the design criteria. Cams Generate a design from research; develop a specification, model and communicate ideas. Produce lists of tools and materials and plans to make accurately assembled and well finished products within constraints. Compare final product to the original specification; test products with the intended user and critically evaluate the product, considering the views of others. Investigate famous manufacturing and engineering companies relevant to the project. Generate and communicate ideas through annotated sketches and representations of electrical circuits or circuit diagrams. Using a step -by -step plan, select and accurately assemble materials, electrical components, to produce a functional product. Create and modify a computer control program to enable their electrical product to respond to changes in the environment.	**LO: to generate ideas for my own design.** **LO: to apply a mechanical and electrical system to my product.** **LO: to judge whether my product meets the design criteria.**	Gears Levers Pulleys Mechanical system Linkages Market research Survey Target audience Demographic Product Purpose Evaluate Suitability Strengthening Finishing Improve	1. Research skills (cams, gears, electrical systems) children to rotate around carousel to try these different skills. Children to then generate their own ideas for a project (solar system model with electrical system) Photograph children using cams/gears etc and in books, children to design their own model labelling and annotating the mechanisms and electrical systems. Children to make lists of tools and equipment and various design ideas to work on in the next lesson. Children to create their own design specification to assess against. Extend- How can you adapt your design specification to include more complex electrical systems? 2. Children work on their project including a mechanical and electrical system building on skills from last lesson. Children to evaluate as they go, photographs of process in books for children to annotate each stage as they go. Broaden- As you evaluate, which adaptations have you made and what difference have they had on the final project? 3. Children to analyse their final product and judge whether their product meets their original design criteria. Children to complete assessment against techniques and requirements in the real world. Challenge- Look at your project objectively and think about would a company sell it in the real world? E.g. would a toy shop sell your product, why/why not and which changes would you need to make?

Subject – Cooking | Spring 1 | Context – Baguettes with Hot Chocolate

NC PoS	Key Concepts	Key Competencies	Key Vocabulary	Key Activities
Cooking and Nutrition 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:* - 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.	*Guided research about specific materials, features and design of the product to be made.* *Research to be fed into planning to produce a prototype of product to be created.* *Prototype to be evaluated before producing final design/product.* *Create final product using evaluations to inform production.* *Use discussion to introduce technical vocabulary at appropriate stages throughout the design and production process.* **Key learning from knowledge organiser –** • I know the approximate portion size you should eat from each food group as part of a healthy diet. • I can measure food using digital scales independently. • I can follow a simple recipe independently. • I can explain and demonstrate how to work with food hygienically.	**Pathway 5 – Food** LO: I can develop my knowledge of heathy eating and recognise the approximate portion size you should eat from each food group as part of a healthy diet. LO: I can measure food using digital scales independently. LO: I can follow a simple recipe independently consistently demonstrating how to work with food safely and hygienically. **Pathway 4 - Evaluating processes and products** LO: I can analyse and evaluate my finished product.	***Eat well plate*** *- a pictorial summary of the main food groups and their recommended proportions for a healthy diet.* ***Digital scale*** *- a measuring device that reads and displays the weight of an object.* ***Method*** *- how a task is carried out.* ***Knead*** *- to work and press into a mass with or as if with the hands* ***Rise*** *- The process in which dough expands as a result of the carbon dioxide that is produced by the yeast or other leavening agent in the dough.* ***Mix*** *- To stir two or more ingredients until mixture is thoroughly combined and uniform in texture.* ***Equipment*** *- devices or appliances that can be utilized to prepare a meal* ***Personal hygiene*** *- hygiene refers to a series of practices that preserve and protect the health from diseases* ***Cross contamination*** *- what happens when bacteria or other microorganisms are unintentionally transferred from one object to another*	**1. Healthy eating and portion size** - Review the Year 5 Key Learning doc and highlight the key learning that will take place this lesson, the key skills they will be using and the key vocabulary they will need. - Define/ learn what a balanced diet, nutrient and nutrition is - In groups, class to retrieve information about different nutrients on sugar paper - Label the Eatwell Plate in books – link this to our recipe on baguettes - Class watch a variety of heathy eating messages/ adverts. Which is more powerful? Why? **2. Using the equipment and key vocabulary** - Starter task – Children to have the recipe cut into slips and put it in the correct order - Children identify key skills and equipment needed to complete the recipe successfully - After learning about how to measure out ingredients accurately, children to measure out the ingredients they need using the appropriate scales accurately **3. Following the recipe hygienically and safely** - Retrieval – How can we cook safely and hygienically - Re-cap hygiene and safety rules - Children follow the recipe independently **4. Evaluation** - Taste Test - Complete evaluation spider chart - Suggest what they would do differently next time using their evaluation

Subject – DT Spring 2 Context- CAD design, frame structures Eiffel Tower

NC PoS	Key Concepts	Key Competencies	Key Vocabulary	Key Activities
Pathway 1 - Developing, planning and communicating ideas **Pathway 2 -** Working with tools, equipment, materials and components to make quality products **Pathway 3 -** Technical knowledge **Pathway 4 -** Evaluating processes and products **Pathway 6 –** Mechanism.	**Developing, planning and communicating ideas** I can experiment with computer-aided design. I can make mock-ups to test my design. **Working with tools, equipment, materials and components to make quality products** I can name and explain the purpose of the tools/equipment I use to make my products. I can use tools/equipment safely and with reasonable accuracy. **Technical knowledge** I can use a variety of techniques to strengthen my products. **Evaluating processes and products** I can judge whether my products/the products of others match the design criteria. I can make some improvements to my work based on my own and the evaluations of others. **Frame Structures** Research user needs and existing products and develop and model innovative ideas into a design specification. Formulate a plan with a step-by-step list of tasks and resources. Use tools to accurately measure, mark out, cut, shape and join materials to make frameworks. Use finishing techniques suitable for the product and critically evaluate their products against a range of criteria. Research key events and individuals relevant to frame structures.	**Design** LO: To analyse the structure of the Eiffel Tower and experiment with how it could be re-created by using prototypes. LO: To formulate a plan to create a model of the Eiffel Tower. **Make** LO: To use a variety of techniques to strengthen my products LO: To use tools/equipment safely and with reasonable accuracy. **Evaluate** LO: To judge whether my products/the products of others match the design criteria. *[LO: To experiment with CAD design]*	Frame: a rigid structure that surrounds something Reinforce: to make stronger Design: a plan or drawing produced to show the look and function of something Criteria: a standard by which something is marked against Accuracy: being precise Purpose: the reason for something Annotated: adding notes to a diagram Evaluation: making a judgement about a final product	**Lesson 1:** - Look at the Eiffel Tower and discuss it's purpose, design and structure. Children to make notes - Children to create a double page spread looking closely at the Eiffel Tower, it's purpose, design and structure. - Give children small pieces of wood to create prototypes of the Eiffel Tower and see if they can imitate the frame structure. - Children to discuss steps to create their Eiffel Tower with their group. Explain on sugar paper. CHALLENGE: Explain to your partner different ways in which structures can be strengthened **Lesson 2:** - Children to make their Eiffel Tower in groups, following steps. - Use glue gun and saws with accuracy and safety. BROADEN: Research other frame structures and link them to the Eiffel Tower **Lesson 3:** - Evaluation of all Eiffel Towers- children to give two stars and a wish for each. - Evaluate frame structure. EXPAND: Improve your tower by listening to advice from others

Subject – Cooking Summer 1 Context- Apple Crumble

NC PoS

Cooking and Nutrition

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:

- 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.

Key Concepts

Guided research about specific materials, features and design of the product to be made.
Research to be fed into planning to produce a prototype of product to be created.
Prototype to be evaluated before producing final design/product.
Create final product using evaluations to inform production.
Use discussion to introduce technical vocabulary at appropriate stages throughout the design and production process.

Key learning from knowledge organiser –

- I know the approximate portion size you should eat from each food group.
- I can measure food using digital scales independently.
- I can use basic food equipment safely.
- I can follow a simple recipe independently.
- I can explain and demonstrate how to work with food hygienically.

Key competencies

Pathway 5 – Food
LO: I can develop the skills to safely use a range of basic equipment and both cut and peel food safety.

LO: I can follow a recipe independently consistently demonstrating how to work with food safely and hygienically.

Pathway 4 - Evaluating processes and products
LO: I can suggest improvements to my work based on my own and the evaluations of others.

This LO will have been ultimately covered over the year –
LO: I can prepare and cook a variety of dishes using a range of cooking techniques.

Key Vocabulary

Eat well plate *- the government's advice on a healthy balance diet*
Digital scale - a measuring device that reads and displays the weight of an object.
Method *- a particular procedure for accomplishing or approaching something.*
Bread crumbs - a small fragment of bread.
Swivel peeler *- device for removing the skin from fruit and vegetables.*
Bridge hold *- Hold the food to be cut between the fingers and thumb creating a bridge.*
Equipment - the necessary items for a particular purpose.
Cross contamination *- the process by which bacteria or other microorganisms are unintentionally transferred from one substance or object* ***to another.***
Allergies *- damaging immune response by the body to a substance.*

Key Activity

Lesson 1 – Children to…

- analyse their recipe, the skills they will be using, the equipment they will need and the ingredients they will need.
- watch the following videos created by KL – *Bridge Hold, Claw Grip and Using a swivel peeler*.
- use these videos to prepare their ingredients using cooking equipment safely whilst being monitored by adults.
- measure their ingredients independently using what has been learnt this year.

Broaden – Market research with packets from supermarket apple crumble.

Lesson 2 – Children to follow their recipe independently, safely and hygienically. Adult supervision at all times.
Challenge – This recipe is only for two people/two portions. Could you alter the amount of each ingredient so that you recipe will feed your whole family?

Lesson 3 – Children to…

- do a taste test and appearance test on their finished crumble and their partners finished crumble.
- use a spider diagram to evaluate their product
- Peer and self assess their crumble noting what went well and what could be done next time to improve their recipe using the spider diagram.

Extend – Using your results and the advise from your peers, to make adjustments to your recipe to suit your preferences.

Subject – DT Summer 2 Context- Textiles

NC PoS	Key Concepts	Key Competencies	Key Vocabulary	Key Activities
Developing, planning and communicating ideas **Textiles**	I can experiment with computer-aided design. I can make mock-ups to test my design. Combining different fabric shapes Generate and communicate innovative ideas through research. Produce detailed lists of equipment and fabrics and formulate step-by-step plans for making. Investigate and analyse textile products linked to their final product and compare the final product to the original design specification. Know that a 3-D textile product can be made from a combination of pattern pieces, fabric shapes and different fabrics and that fabrics can be strengthened, stiffened and reinforced.	LO: to combine fabric shapes and create and test out innovative designs through investigation. LO: to investigate existing textile products linked to a specification. LO: to analyse step by step procedures to create a product. LO: to evaluate my final textile product and analyse improvements.	3D Dimensional 2D Fabric Joining Textiles Market research Mood board	***Task specification and purpose: to create a new item of clothing with a new design using old clothing (upcycling) linked to sustainability topic.*** 1.Design an item of clothing linked to our specification above. Test out different fabrics and designs creating a mood board in books for the item that they would like to create. Investigate different styles and techniques and share pieces of fabric from other people. Extend- which materials would be better suited to your design and why? What makes them sustainable? 2. Investigate using chromebooks what is on the market already (market research) are there any existing recycled clothing examples? Broaden- which examples that you have found on the market use motifs and patterns and which are plain, which designs will you modify and use and why? 3. Step by step- children to create a detailed sketch and plan for their final product and create step by step annotated picture instructions of how to create their final outcome. Extend- which techniques will you use, joining, application etc. Research new skills that you need. 4. Evaluate- Children to look back at their mood board and final sketches to see whether they have achieved the original specification and reflect on their designs and final outcome. Extend- peer assess each others clothing, would you wear it and why?

Year 6

Subject – DT- Autumn 1 – Make do and mend topic- (Textiles using CAD)– Creating a wartime cushion

NC PoS	Key Concepts	Key Competencies	Key Vocabulary	Key Activities
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 EVALUATE & INVESTIGATE: 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	**Pathway** 1 - I can independently research a range of existing products. I can develop my own design criteria. I can create something that is aimed at a specific individual or group. I can create a product that is functional and fit for purpose. I can use computer aided design. **Pathway** 2 - I can select the correct tools/equipment to cut, shape, join and finish my products. I can use tools/equipment safely and accurately. I can select appropriate materials/component s to create my products. I can justify my choice of material/components based on, e.g. their properties, aesthetic qualities. **Pathway** 7 - Using computer aided design in textiles Generate innovative ideas through research and develop. Design functional, appealing products for the intended user that are fit for purpose based on a simple design specification. Select and use a range of tools and equipment, including CAD, to make products that are accurately assembled and well finished.	L.O. I can demonstrate my understanding of the make-do and mend initiative L.O: I can research and analyse a range of existing products to create criteria for a cushion design L.O: I can experiment with different types of stitch L.O: I can design a cushion suitable for a user in the wartime era L.O: I can use CAD to create a plan including design specifications and steps of how to make my product L.O. I can create a prototype cushion and identify strengths and areas for development against the original specifications. L.O: I can apply my plan to construct a cushion that meets the specification L.O: I can evaluate my product, identifying strengths and areas for development against the original specifications.	computer aided design (CAD), Font Lettering Text Graphics Scale Modify Repeat Copy Flip Design brief Design criteria Design decisions Innovative Prototype Seam Seam allowance Wadding Reinforce Hem Template Pattern Fastenings Pins Needles Thread Shears Iron transfer paper Annotate Functionality Authentic User Purpose Evaluate	Lesson 1 Children learn about the make-do and mend initiative. They also discuss the environmental impact of recycling clothes. Children are told they will be 'make-do and mending' by producing some cushion covers. Children begin to think about the user/purpose of their product and how they will fulfil the design criteria. Children investigate and evaluate a range of existing textiles products and how they have been constructed using disassembly, and evaluate what the fabric shapes look like and how the parts have been joined. EXPAND: Note which joining techniques and stitch types have been used on each cushion Lesson 2 Children experiment with different stitch types on a swatch of fabric. They begin to think about how they will use these to embellish and join parts of their cushions. Children use their product research findings as well as their knowledge of different stitch types to sketch a cushion design. Children must include captions for types of fabric, stitches, joining techniques and fastenings (will they use a zip/buttons/press studs? EXPAND: Have a go at a blanket stitch and catch stitch EXTEND: Children plan to use three joining techniques within their projects Lesson 3 * CAD software TBC Develop computer-aided design (CAD) skills by using pattern making software to generate, modify, scale, save and print pattern pieces. Recognise that designs can be easily modified and repeated on the computer without the need for a physical product. Lesson 4 Children create prototypes. Develop skills of sewing textiles by joining right sides together and making seams. Children should investigate how to sew and shape curved edges by snipping seams, how to tack or attach wadding or stiffening and learn how to start and finish off a row of stitches. Evaluate as the children proceed with their work.. EXTEND: Children include two types of stitch Lesson 5 Children evaluate their prototypes and plan a final design. Following this, children stitch/construct cushions, including any fasteners or straps. EXPAND: Children include a pocket or zip on their final design Lesson 6 Evaluate the final product in use, comparing the final product to the original design specification. Critically evaluate the quality of the design, the manufacture, functionality, innovation shown and fitness for intended user and purpose, considering others' opinions.

Subject – DT/Cooking Autumn 2 – Breakfast bars

NC PoS	Key Concepts Link	Key Knowledge and Pathway	Vocabulary	Activity
• understand and apply the principles of a healthy and varied diet • prepare and cook a variety of dishes using a range of cooking techniques	Pathway 4- Evaluating processes and products. Pathway 5- Food.	• I understand the principles of a healthy and varied diet and can explain the effects. • I can demonstrate and apply the skills to safely use a range of basic cooking equipment (e.g. knife, chopping board, spoon, fork, bowl). • I can spoon ingredients between containers equally dividing mixture. • I can mix/fold ingredients together carefully. • I can measure using a jug independently. • I can measure Using digital scales independently. • I can follow and design a simple recipe independently. • I can explain and apply my knowledge of how to work with food hygienically. • I can evaluate what I have made and formulate an opinion.	**Digital scale** – An instrument or machine for weighing. **Method** – A certain way of doing something. Mix – Combine or put together to form one **Equipment** – A list of things needed. **Personal hygiene** – Personal hygiene is a collection of habits that people perform to keep themselves clean and their bodies healthy. **Cross contamination** – Is how bacteria can spread. It occurs when juices from raw meats or germs from unclean objects touch cooked or ready-to-eat foods. **Allergies** - Allergies are abnormal immune system reactions.	Initial lesson children research types of breakfast bars and different recipes and flavours. Children discuss similarities and differences. Discuss eat well plate and what would make a healthy breakfast bar. Look at some packaging from breakfast bars. Children use research to plan and design their recipe. Discuss hygiene rules. Share method with the children. Discuss skills they will be learning/using. • Mixing • Peeling if using fruit • Grating if using zest Discuss vocab • Personal hygiene • Cross contamination • Allergies Show recipe step by step and children follow and complete their own. Second session – same day Children taste breakfast bars. Children taste cake and evaluate their product.

DT –Spring 1- Bridges – DT

NC PoS	Key Concepts	Key Competencies	Key Vocabulary	Key Activities
Technical knowledge -I can strengthen, stiffen and reinforce my products. -I understand and can use mechanical systems in my products, e.g. gears, pulleys, cams, levers and linkages. Evaluation -I can evaluate my products against my own design criteria. -I can constructively evaluate the work of others against their design criteria. -I can make improvements to my work based on my own and the evaluations of others Mechanisms -Pulleys or Gears Generate ideas through research and develop and communicate a simple design specification. -Select use a range of tools and equipment to make products that that are accurately assembled and well finished within the constraints of time, resources and cost. -Compare the final product to the original design specification and test the quality of the design, manufacture and functionality with the user. Developing, planning and communicating ideas -I can independently research a range of existing products. -I can create a product that is functional and fit for purpose. -I can communicate my ideas through annotated sketches, cross-sectional and exploded diagrams. -I can create a prototype. Working with tools, equipment, materials and components to make quality products -I can use tools/equipment safely and accurately. -I can select appropriate materials/component s to create my products. -I can justify my choice of material/components based on, e.g. their properties, aesthetic qualities.	Children are able to create a prototype Children have a secure understanding of how to strengthen, stiffen and reinforce a product Children demonstrate the ability to use mechanical systems in their products Children are able to research existing products Children create a product which is fit for purpose Children can use tools/equipment safely and accurately. Children select appropriate materials/component s to create my products. Children can confidently evaluate theirs, as well as their peers', work against a design criteria .	Pathway 1- Developing, planning and communicating ideas. Pathway 2- Working with tools, equipment, materials and components to make quality products. Pathway 4- Evaluating processes and products Pathway 6 –Mechanisms Pathway 8 – Structures. L.O: I can analyse and evaluate designs of bridge types. L.O: I can compare and contrast different bridge designs considering why their purpose and location L.O: I can plan my bridge design, explaining why I have chosen to use my approach L.O: I can create my bridge using my design brief L.O: I can evaluate my bridge against my success criteria	**Bridge** - a structure carrying a road, path, railway, etc. across a river, road, or other obstacle. **anchorage**- This holds up the very end of a bridge on the underside and holds up the abutments. **suspender**- A type of cable on a suspension bridge. It is attached to the suspension cable. **abutment**- The top of a pier. It joins the ends of bridges to land, and joins piers to the bridge deck. **deck**- The structure that traffic is on. It is the road or rails on a bridge. **soffit**- The bottom surface of a bridge. **towers**- The part of a bridge that holds up cables. They can also be decorative. **truss**- A structure acting as a beam. **viaduct**- A bridge with many or all sections over dry land.	L1 Children to analyse and evaluate designs of different bridge types. They annotate the physical features of the bridges and refer to the use/ location of each to reason why they may have been designed this way. EXTEND – Children are given a range of locations and decide which type of bridge would be most appropriate for each L2 Children compare different types of bridges and their structure - why have they used certain designs? Children identify the physical parts of the bridge and discuss pros and cons of each BROADEN – Children discuss the features that make a bridge most strong. Children decide which materials are most appropriate for different parts of a bridge. L3 Children to learn about different types of mechanisms to use when designing a bridge. Discuss why these are useful and whether this mechanisms are suited for different types of bridge locations. EXPAND – Children are given different bridges and a choice of mechanisms. Justify their choices. L4 Children to be provided with equipment to create own bridge. Children to design own bridge to hold a certain amount of weight. Children to use ideas from bridges demonstrated e.g. suspension, arch, truss, cantilever, beam, cable stayed. CHALLENGE – Children are now tasked with building a bridge without paperclips/to build a bridge of a certain height. They must decide how they will strengthen their bridges enough to achieve this. L5 Children to make own bridge using the skills they have learnt and evaluate

DT/Cooking –Spring 2- Marble Cake

NC PoS	Key Concepts	Key Competencies	Key Vocabulary	Key Activities
• understand and apply the principles of a healthy and varied diet • prepare and cook a variety of dishes using a range of cooking techniques	Pathway 4- Evaluating processes and products. Pathway 5- Food.	• I understand the principles of a healthy and varied diet and can explain the effects. • I can demonstrate and apply the skills to safely use a range of basic cooking equipment (e.g. knife, chopping board, spoon, fork, bowl). • I can spoon ingredients between containers equally dividing mixture. • I can mix/fold ingredients together carefully. • I can measure using a jug independently. • I can measure Using digital scales independently. • I can follow and design a simple recipe independently. • I can explain and apply my knowledge of how to work with food hygienically. • I can evaluate what I have made and formulate an opinion.	Digital scale – An instrument or machine for weighing. Method – A certain way of doing something. Knead – To mix by pressing, folding, and pulling. Rise - To increase in height, size, volume Mix – Combine or put together to form one Equipment – A list of things needed. Personal hygiene – Personal hygiene is a collection of habits that people perform to keep themselves clean and their bodies healthy. Cross contamination – Is how bacteria can spread. It occurs when juices from raw meats or germs from unclean objects touch cooked or ready-to-eat foods. Allergies - Allergies are abnormal immune system reactions.	Discuss hygiene rules. Share method with the children. Discuss skills they will be learning/using. • Knead • Mix Discuss vocab • Rise • Personal hygiene • Cross contamination • Allergies Discuss and identify food groups and discussed the importance of a balanced diet. Show recipe step by step and children follow and complete their own. Second session – same day Children note changes in cake mix. Children taste cake and evaluate their product. Children suggest adaptation of recipe and rewrite recipe with their own plan.

DT (CAD)- Summer 1

NC PoS	Key Concepts	Key Competencies	Key Vocabulary	Key Activities
Using computer aided design in textiles Generate innovative ideas through research and develop these using mock-ups and prototypes including using computer-aided design. Design functional, appealing products for the intended user that are fit for purpose based on a simple design specification. Select and use a range of tools and equipment, including CAD, to make products that are accurately assembled and well finished	Children are able to create a prototype Children are able to research existing products Children create a product which is fit for purpose Children select appropriate materials/component s to create my products. Children can confidently evaluate theirs, as well as their peers', work against a design criteria	We will find out about Computer Aided Design - what it is, and how it is used. Then we will try out a Computer Aided Design software to help us design a helmet. L.O. I can appraise a range of existing products, identifying the positive/negative features and suggesting improvements. L.O: I can understand and can explain what computer aided design is L.O: I can generate ideas and designs, developing them through analysis of shell structures and use CAD to model and communicate ideas L.O: I can evaluate shell structures and their own products. L.O. I can create a prototype	.CAD – Computer aided design Evaluation Mock ups Prototypes SketchUp	L1- Children look at existing product designs. Children use this knowledge to identify the pros and cons of each design. They then draft their own designs on paper. Following this, children use the Chromebooks to translate their designs onto the CAD software. Children may use imagery from Google to enhance their work. CHALLENGE-Children ensure there is a theme running through their design. L2- Familiarise children with the 'What is CAD?' presentation and with the practising SketchUp basics sheet ready for use in the lesson. Ensure children have SketchUp open ready to start and ask them to work through the basics practise sheet (teacher to model each step also.) Children need to transfer their designs from paint onto their pencil pots. Children will need to resize, edit colours and input designs from paint. EXTEND- Children to adjust the textures of the entire pot to mirror their chosen materials L3- Children create a three-dimensional version of their pencil pots using papier mache. This will serve as a prototype and can then be used to evaluate. CHALLENGE- Children suggest an alternative design that would suit a different purpose

Subject – DT/Cooking- Summer 2 – Bread

NC PoS	Key Concepts	Key Competencies	Key Vocabulary	Key Activities
• understand and apply the principles of a healthy and varied diet • prepare and cook a variety of dishes using a range of cooking techniques	Pathway 4- Evaluating processes and products. Pathway 5- Food.	• I understand the principles of a healthy and varied diet and can explain the effects. • I can demonstrate and apply the skills to safely use a range of basic cooking equipment (e.g. knife, chopping board, spoon, fork, bowl). • I can spoon ingredients between containers equally dividing mixture. • I can mix/fold ingredients together carefully. • I can measure using a jug independently. • I can measure Using digital scales independently. • I can follow and design a simple recipe independently. • I can explain and apply my knowledge of how to work with food hygienically. • I can evaluate what I have made and formulate an opinion.	**Digital scale** – An instrument or machine for weighing. **Method** – A certain way of doing something. **Knead** – To mix by pressing, folding, and pulling. **Rise** - To increase in height, size, volume Mix – Combine or put together to form one **Equipment** – A list of things needed. **Personal hygiene** – Personal hygiene is a collection of habits that people perform to keep themselves clean and their bodies healthy. **Cross contamination** – Is how bacteria can spread. It occurs when juices from raw meats or germs from unclean objects touch cooked or ready-to-eat foods. **Allergies** - Allergies are abnormal immune system reactions.	Discuss hygiene rules. Share method with the children. Discuss skills they will be learning/using. • Knead • Mix Discuss vocab • Rise • Personal hygiene • Cross contamination • Allergies Discuss and identify food groups and discussed the importance of a balanced diet. Show recipe step by step and children follow and complete their own. Second session – same day Children note changes in bread mixture and consider importance of yeast in the mixture. Link to Microorganisms and what the role of yeast is in the mixture. . Children taste cake and evaluate their product. Children suggest adaptation of recipe and rewrite recipe with their own plan.

DT – Textiles – Summer 2- Keyrings

NC PoS	Key Concepts	Key Competencies	Key Vocabulary	Key Activities
Using computer aided design in textiles Generate innovative ideas through research and develop these using mock-ups and prototypes including using computer-aided design. Design functional, appealing products for the intended user that are fit for purpose based on a simple design specification. Select and use a range of tools and equipment, including CAD, to make products that are accurately assembled and well finished	Pathway 4- Evaluating processes and products. Pathway 7 – Textiles	We will find out about Computer Aided Design - what it is, and how it is used. Then we will try out a Computer Aided Design software. L.O: I understand and can explain what computer aided design is L.O: I can apply my skills to design my own product L.O: I can evaluate my designs and suggest improvements	.CAD – Computer aided design Evaluation Mock ups Prototypes Tinkercad	Getting started with Tinkercad Practising Tinkercad Basics video Familiarise yourself with the what is CAD? presentation and with the practising Tinkercad basics sheet ready for use in the lesson. The practising Tinkercad basics sheet can be downloaded and printed for pupils to use, if you prefer this to the digital version. Introduction Use the What is CAD? presentation to explain what Computer Aided Design is and how it is used. Learn the basics of how to use Tinkercad Show the children the practising Tinkercad basics video. Ensure children have Tinkercad open ready to start and ask them to work through the Tinkercad basics practise sheet. As children finish the practise exercise, ask them to experiment with Tinkercad to create an object from that by adding shapes, using shapes to cut away, resizing, etc. Draw a keyring in Tinkercad Show the keyring video tutorial. Ask the children to design their own keyring in Tinkercad Showcase The children show each other their keyring designs

IMPACT

93.2% of whole school working at the curriculum expectation in Design Technology

17.8% of whole school working as high attainers within the curriculum in Design Technology

Year 1 Attainment
Meeting the end of Year Expectation

	Science	Computing	Geography	History	RE	Music	Art	DT	PE	MFL
Overall	96	96	92	96	95	97	98	97	94	NA
Boys	97	97	91	96	96	97	99	97	91	NA
Girls	94	94	92	96	94	98	98	98	98	NA
Gender gap	3	3	1	0	2	1	1	1	7	NA
Pupil Premium	88	88	88	100	94	100	100	100	88	NA
Non PP	97	97	92	95	95	97	98	97	95	NA
PP gap	9	9	4	5	1	3	2	3	7	NA
EAL	67	67	67	67	67	67	67	67	67	NA
Non EAL	97	97	92	97	96	98	99	98	95	NA
EAL gap	30	30	25	30	29	31	32	31	28	NA
SEN	85	85	77	69	69	85	92	85	62	NA
Non SEN	97	97	93	99	98	99	99	99	98	NA
SEN gap	12	12	16	30	29	14	7	14	36	NA

Year 1 Attainment

High Attaining

Subject	Science	Computing	Geography	History	RE	Music	Art	DT	PE	MFL
Overall	13	23	15	16	17	20	14	7	3	NA
Boys	15	31	21	18	19	15	15	9	6	NA
Girls	10	12	8	14	14	27	14	4	0	NA
Gender gap	5	19	13	4	5	12	1	5	6	NA
Pupil Premium	0	6	0	0	0	18	0	6	6	NA
Non PP	15	25	18	19	20	21	17	7	3	NA
PP gap	15	19	18	19	20	3	17	1	3	NA
EAL	0	0	0	0	0	33	0	0	0	NA
Non EAL	13	23	16	16	17	20	15	7	3	NA
EAL gap	13	23	16	16	17	13	15	7	3	NA
SEN	0	8	8	0	0	0	0	8	0	NA
Non SEN	14	25	16	18	19	23	16	7	4	NA
SEN gap	14	17	8	18	19	23	16	1	4	NA

Year 2 Attainment
Meeting the age expectation

Subject	Science	Computing	Geography	History	RE	Music	Art	DT	PE	MFL
Overall	90	86	90	92	90	94	92	90	94	NA
Boys	85	83	88	91	86	92	89	88	94	NA
Girls	98	90	93	93	95	98	95	93	95	NA
Gender gap	13	7	5	2	9	6	6	5	1	NA
Pupil Premium	67	67	73	73	67	93	80	80	87	NA
Non PP	93	89	92	95	93	95	93	91	96	NA
PP gap	26	22	19	23	26	2	13	11	9	NA
EAL	100	80	100	80	100	100	80	80	100	NA
Non EAL	89	86	89	92	89	94	92	90	94	NA
EAL gap	11	6	11	12	11	6	12	10	6	NA
SEN	31	31	69	46	31	62	46	38	54	NA
Non SEN	98	94	98	98	98	99	98	97	100	NA
SEN gap	67	63	29	52	67	37	42	59	46	NA

Year 2 Attainment

High Attaining

Subject	Science	Computing	Geography	History	RE	Music	Art	DT	PE	MFL
Overall	17	21	22	26	20	26	18	22	10	NA
Boys	20	27	23	28	20	23	11	18	14	NA
Girls	12	10	22	24	20	32	29	29	5	NA
Gender gap	8	17	1	4	0	9	18	11	9	NA
Pupil Premium	7	7	0	7	0	13	0	7	0	NA
Non PP	18	23	26	30	23	28	21	25	12	NA
PP gap	11	16	26	23	23	15	21	18	12	NA
EAL	0	20	0	0	60	20	0	20	0	NA
Non EAL	18	21	24	28	18	26	19	23	11	NA
EAL gap	18	1	24	28	42	6	19	3	11	NA
SEN	0	0	31	0	0	0	8	8	0	NA
Non SEN	19	23	26	30	22	30	19	24	12	NA
SEN gap	19	23	5	30	22	30	11	16	12	NA

Year 3 Attainment
Meeting the age expectation

Subject	Science	Computing	Geography	History	RE	Music	Art	DT	PE	MFL
Overall	89	94	88	84	92	94	92	91	92	91
Boys	86	92	88	85	92	88	86	85	90	88
Girls	93	96	87	83	93	100	98	98	94	94
Gender gap	7	4	1	2	1	12	12	13	4	6
Pupil Premium	76	90	81	76	95	100	90	90	90	86
Non PP	92	95	89	86	91	92	92	91	92	92
PP gap	16	5	8	10	4	8	2	1	2	6
EAL	100	100	100	100	67	100	67	67	100	67
Non EAL	89	94	87	84	93	94	93	92	92	92
EAL gap	11	6	13	16	26	6	26	25	8	25
SEN	59	71	59	53	65	88	59	59	82	63
Non SEN	95	98	93	90	97	95	98	97	94	96
SEN gap	36	27	34	37	22	7	39	38	12	33

Year 3 Attainment

High Attaining

Subject	Science	Computing	Geography	History	RE	Music	Art	DT	PE	MFL
Overall	16	12	16	21	16	4	16	12	2	13
Boys	20	14	17	22	14	3	12	8	3	14
Girls	11	11	15	20	19	6	20	15	0	13
Gender gap	9	3	2	2	5	3	8	7	3	1
Pupil Premium	5	10	5	5	5	0	5	5	0	5
Non PP	18	13	18	25	18	5	18	13	2	15
PP gap	13	3	13	20	13	5	13	8	2	10
EAL	0	0	0	0	0	0	0	0	0	0
Non EAL	16	13	16	22	16	5	16	12	2	14
EAL gap	16	13	16	22	16	5	16	12	2	14
SEN	0	0	0	0	6	6	6	0	0	6
Non SEN	19	15	19	25	18	4	18	14	2	15
SEN gap	19	15	19	25	12	2	12	14	2	9

Year 4 Attainment
Meeting the age expectation

Subject	Science	Computing	Geography	History	RE	Music	Art	DT	PE	MFL
Overall	87	92	86	87	86	92	89	92	97	86
Boys	86	92	81	86	83	87	84	87	97	81
Girls	91	91	91	91	91	98	95	98	98	93
Gender gap	5	1	10	5	8	11	11	11	1	12
Pupil Premium	82	86	77	82	86	95	77	91	100	82
Non PP	89	93	88	89	86	91	92	92	97	87
PP gap	7	7	11	7	0	4	15	1	3	5
EAL	88	100	88	88	75	86	100	75	100	88
Non EAL	87	91	85	87	86	92	88	93	97	86
EAL gap	1	9	3	1	11	6	12	18	3	2
SEN	54	62	46	54	46	77	62	69	85	46
Non SEN	92	95	90	92	91	93	92	94	99	91
SEN gap	38	33	44	38	45	16	30	25	14	45

Year 4 Attainment

High Attainers

Subject	Science	Computing	Geography	History	RE	Music	Art	DT	PE	MFL
Overall	29	30	32	32	29	17	31	33	26	29
Boys	30	32	33	33	27	10	27	27	32	29
Girls	29	29	31	31	31	25	35	40	20	31
Gender gap	1	3	2	2	4	15	8	13	12	2
Pupil Premium	32	32	36	36	36	27	36	41	23	32
Non PP	29	30	31	31	27	15	29	31	27	29
PP gap	3	2	5	5	9	12	7	10	4	3
EAL	13	13	13	13	13	0	29	25	0	13
Non EAL	31	32	34	33	30	18	31	33	28	31
EAL gap	18	19	11	20	17	18	2	8	28	18
SEN	0	0	0	0	0	0	0	8	0	0
Non SEN	33	34	36	36	32	19	35	36	29	33
SEN gap	33	34	36	36	32	19	35	28	29	33

Year 5 Attainment
Meeting the age expectation

Subject	Science	Computing	Geography	History	RE	Music	Art	DT	PE	MFL
Overall	98	95	92	93	96	99	99	95	98	96
Boys	97	97	97	93	95	98	98	93	98	97
Girls	100	93	89	93	96	100	100	96	98	95
Gender gap	3	4	8	0	1	2	2	3	0	2
Pupil Premium	100	92	92	96	96	100	100	96	96	96
Non PP	98	96	92	92	96	99	99	95	99	96
PP gap	2	4	0	4	0	1	1	1	3	0
EAL	91	82	82	91	91	90	100	73	91	82
Non EAL	99	96	94	93	96	100	99	97	99	97
EAL gap	8	14	12	2	5	10	1	24	8	15
SEN	94	83	94	78	83	94	94	83	89	94
Non SEN	99	97	92	96	98	100	100	97	100	96
SEN gap	5	14	2	18	15	6	6	14	11	2

Year 5 Attainment

High Attainers

Subject	Science	Computing	Geography	History	RE	Music	Art	DT	PE	MFL
Overall	35	26	25	27	28	22	27	20	23	23
Boys	36	25	22	22	19	19	19	12	31	19
Girls	35	25	27	31	36	25	38	27	15	27
Gender gap	1	0	5	9	17	6	19	15	16	8
Pupil Premium	25	8	4	8	13	25	33	8	21	4
Non PP	28	30	30	32	32	21	26	23	24	28
PP gap	13	22	26	24	19	4	7	15	3	24
EAL	55	27	27	36	18	30	18	9	27	36
Non EAL	33	25	24	25	28	21	29	20	23	22
EAL gap	22	2	3	11	10	9	11	11	4	14
SEN	22	11	6	11	11	22	11	6	6	0
Non SEN	37	28	28	30	31	22	30	22	26	27
SEN gap	15	17	22	19	20	0	19	16	20	27

Year 6 Attainment
Meeting the age expectation

Subject	Science	Computing	Geography	History	RE	Music	Art	DT	PE	MFL
Overall	88	92	87	93	90	88	91	93	94	82
Boys	82	91	80	89	84	80	84	93	93	73
Girls	94	94	94	98	96	96	98	94	96	92
Gender gap	12	3	14	9	12	16	14	1	3	19
Pupil Premium	71	86	76	90	81	81	81	86	86	71
Non PP	92	94	89	94	92	89	93	95	96	85
PP gap	21	8	13	4	11	8	12	9	10	14
EAL	100	100	100	100	100	100	95	100	100	90
Non EAL	85	91	84	92	87	85	90	92	93	80
EAL gap	15	9	16	8	13	15	5	8	7	10
SEN	47	67	47	73	47	33	67	67	67	33
Non SEN	95	97	93	97	97	97	95	98	99	90
SEN gap	48	30	46	24	50	64	28	31	32	57

Year 6 Attainment

High Attainers

Subject	Science	Computing	Geography	History	RE	Music	Art	DT	PE	MFL
Overall	25	13	14	25	19	3	18	13	8	8
Boys	18	20	9	22	11	2	4	11	7	4
Girls	31	6	20	27	27	4	33	16	10	12
Gender gap	13	14	11	5	16	2	29	5	3	8
Pupil Premium	5	5	0	14	5	0	0	0	0	0
Non PP	29	15	18	27	22	4	22	16	11	9
PP gap	24	10	18	13	17	4	22	16	11	9
EAL	25	5	10	20	30	5	10	10	0	10
Non EAL	24	15	15	26	16	2	20	14	10	7
EAL gap	1	10	5	6	14	3	10	4	10	3
SEN	0	13	0	7	0	0	0	0	7	0
Non SEN	29	13	16	27	22	3	21	15	9	9
SEN gap	29	0	16	20	22	3	21	15	2	9

Evaluation

Strengths

- A firm grasp of the aim and outcomes of the task set
- A hands-on approach to learning – physically stimulating
- Ambitious Vocabulary developed throughout
- Evidence of effective and logical approaches taken
- Children positive and proud about what is created
- Children motivated by their creations and ideas
- Clear Purpose to the tasks developed
- Coverage in line with school expectations
- Productivity is high for all children

Developments

- To assess and evaluate each other's work
- To assess their learning/ skills over time
- To develop regular opportunities to evaluate learning alongside the product/creation
- To develop skills of constructive criticism
- To ensure challenge and depth of thought for all pupils
- To apply discussion about previous learning