DT Overview

	Term One	Term Two	Term Three	Term Four	Term Five	Term Six
Foundation Stage	**Cooking and Nutrition:** Children will explore a range of food and foods from different cultures. Children will name food and start to recognise healthy choices		**Structures:** Children will design, make and evaluate their own houses and point of interest in local area		**Textiles:** Children will design, make and evaluate their own printed T-shirt.	
Year 1				**Mechanisms:** Children will design, make and evaluate a moving vehicle for a fictional character		**Cooking and Nutrition** Children will design, make and evaluate a healthy sandwich for a child in foundation stage to have during lunch time.
Year 2			**Structures:** Children will design, make and evaluate playground equipment using moving mechanisms for our school.	**Textiles:** Children will design, make and evaluate a puppet for a young child.	**Mechanisms:** Children will design, make and evaluate a congratulations card to be sent to someone.	
Year 3			**Textiles:** Children will design, make and evaluate a key ring for a Year Six child.			
Year 4			**Electronics** Children will design, make and evaluate their own bedroom light for a child's bedroom.		**Cooking and Nutrition** Children will design, make and evaluate their own seasonal inspired meal for a lunch at school.	
Year 5	**Textiles:** Children will design, make and evaluate a phone case for a Year Six child. **Structures:** Children will, design, make and evaluate packaging for a phone case.				**Structures and Mechanical Systems:** Children will design, make and evaluate a moving toy for a child in Year One.	
Year 6	**Mechanical and Electrical Systems:** Children will design, make and evaluate a new fairground ride for a fair.				**Electrical Systems:** Children will design, make and evaluate a pedometer for an athlete.	

Foundation Stage	**Cooking and Nutrition:** In Foundation Stage, children will explore a range of food and be able to name these foods correctly. Throughout the year, children will experience growing different food within the school allotment and will begin to develop their understanding of what is a healthy choice. This will help children within Year One when making a healthy lunch and will aid their understanding of where food comes from. **Structures:** In Foundation Stage, children will begin to consider what a 3D structure looks like and experiment with different types of materials and joins to achieve this. Children will start to consider planning before they make a product which will begin their understanding of the design cycle. Children will then reflect on their product build as to what they like and dislike about this and the future amendments they will make to further improve their products. This will help children to develop their ability to evaluate which will then form the basis of the DT curriculum as they progress through the school. **Textiles:** In Foundation Stage, children will be able to use printing to create their own specific design for a purpose. They will consider which materials they will use and why is will be appropriate in line with the science curriculum. They will also consider the steps that they will need to go through in order to make their final product. This knowledge will underpin children's understanding of the properties of material within Year One.
Year 1	**Cooking and Nutrition:** In Year One, children will design, make and evaluate a healthy sandwich for a child in Foundation Stage to have during lunch time. This will build upon their prior experience of experiencing different foods and understanding that food can come from plants. Children in Year One will further build upon this knowledge and they will then learn about how food can be grown, reared or caught. This unit also introduces to the children to idea of a balanced diet and a healthy lifestyle which is vital knowledge to help them live an active and healthy life and will further be built upon with the Science, PE and DT curriculum as they progress throughout the school. **Mechanisms:** Within mechanisms, children will use their properties understanding and the use of axels and moving points to design, make and evaluate a congratulations card to be sent to someone. Within this unit, children will explore different flaps, sliders and levers to create movement. They will then have more creative freedom within this unit to create a visually pleasing design for a specific purpose with their own choice of moving mechanism. Children will then be expected to evaluate this independently and begin to consider the views of others to inform their design.
Year 2	**Structures:** In Year Two, children will build upon their knowledge of 3D shapes and will design, make and evaluate playground equipment for our school. Through this context, children will be able to explore existing products in their local environment and will be verbally evaluate these against the design brief. They will then make their own prototype of a new piece of equipment for the playground considering different joining techniques building upon their understanding of movement and how to make structures stronger and stiffer considering the properties of different materials. This is in further building upon their scientific understanding of everyday materials. **Textiles:** In Year Two, children will apply their understanding of a design brief and the design cycle to design, make and evaluate a puppet for a young child. Children will build upon their fine and gross motor skills acquired in Foundation Stage and Year One to ensure competency and will learn different joining techniques including running and over stitch. Children will be able to build upon their knowledge of everyday materials and how textiles are different to other construction materials and therefore the joining techniques chosen may be different. Children will start to evaluate the different choices of joining and the effect this can have on the overall products functionality and aesthetics.

	Mechanisms: In Year One, children will design, make and evaluate a moving vehicle for a fictional character, this will build upon their previous DT unit and children will be able to further consolidate their understanding of the design cycle through the understanding of what a design brief is and the process of designing a product for a specific audience. Children will build upon their experience of loose parts and constructions activities within Foundation Stage and will be able to name a range of 3D shapes in line with the Year Two maths curriculum and will explore the use of wheels, axles and moving parts.
Year 3	**Textiles:** Within textiles, children in Year Three will further build upon their understanding of creating a 3D textiles product and will design, make and evaluate a key ring for a Year Six child. They will further build upon their understanding of the design cycle and will evaluate existing products and their own designs taking into account the views of the target market. Building on their knowledge of joining techniques building upon this by being introduced to backstitch. Children will then use their textiles knowledge from Year Two to enable them to create their key ring whilst exploring a key British textiles designer and the impact they have had on everyday life.
Year 4	**Cooking and Nutrition:** Within Year Four, children will build upon their understanding of how humans can live a nutritional lifestyle from their previous work in Year One and the scientific knowledge they have acquired through the study of animals, including humans. For their first DT project, children will design, make and evaluate their own cultural inspired meal for a lunch at school. Children will further build upon their understanding of how to evaluate recipes and taste through sensory evaluation alongside their understanding of nutrition (Eat Well plate and the impact this can have on the body) and how important hygiene is. Within the unit, children will study a specific chef and the influence that they have had on life today. Children will also consider seasonality, cost and cultural influences impact the available ingredients and the taste of the overall recipe. This unit will then help to prepare children for the end of Key Stage Two and their transition to secondary school. **Electronics** Within this unit of work, children will build upon their understanding of structures within Year Two and their scientific knowledge of everyday materials, lights and electronics established in previous years to design, make and evaluate their own bedroom light for a child's bedroom. Through the study of Thomas Edison, they will make links between scientific understanding and how designers have been able to use these inventions within their own designs. Children will also be introduced to the idea of computer controlled electronics and will make links to this in designs that they see in their everyday life. Children will build upon their understanding of the design cycle and will be able to independently plan out the steps they need to undertake in order to create their final product.
Year 5	**Textiles:** Within textiles, children will use their prior knowledge established within both Year Two and Year Three alongside their understanding of materials and will design, make and evaluate a keyring for a child in Year Five. Children will deepen their understanding of the design cycle by creating their own questionnaires in order to gain an understanding of the needs of the target market and then adapt their designs to meet these needs. Children will use techniques such a templates and a variety of stitches (running stitch, basting stitch, backstitch, slip stitch and overcast stitch) to create their final design. They will also need to create a plan and detailed equipment list before making their product. Building on their knowledge of computer controlled systems, they will also be introduced to computer aided manufacture (CAD) and understand that in industry this would be the quickest and most cost effective way of creating a product. **Structures:** As part of their structures unit of work, children will be able to understand how two different parts of DT are required in order to make a product particularly within packaging a product. Children will, deign, make and evaluate packaging for a keyring, which they will make during the first part of the term. Children will use their market research from their textiles unit to inform their designs and will be able to apply their knowledge of nets from the Year Five maths curriculum to enable them to understand the formation of 3D shapes. They will also apply their understanding of computer control form the electronics unit within Year Four and their understanding CAD (computer aided design) to enable them to understand why CAD and CAM (computer aided manufacture) are both used in industry. Children will then design and make their packaging using 2Design linking to their computing unit to package their textiles key ring. **Structures and Mechanical Systems:**

	Building upon children's previous understanding of how to create structures from a range of different materials and their knowledge of mechanisms through the Year Five Science curriculum children will design, make and evaluate a moving toy for a child in Year One. Within this unit of work, children will again make connections between the two different disciplines within DT and use their knowledge of forces, mechanisms and levers acquired through their Science and DT work to enable them to make a moving product through the use of CAMs. They will build on their understanding of the design cycle and not only create questionnaires to conduct market research but also test the product and consider further improvement based on the views of the intended user.
Year 6	**Mechanical and Electrical Systems:** Building upon their understanding of electronic systems established through the study of electronics in Year Four and Six. Children will use this to design, make and evaluate a new fairground ride for a local visiting circus. Within this project, children need to be able to make connections between knowledge of pulleys and mechanisms in Year Five alongside structural understanding gained throughout the school. This unit helps to provide the basis for children's technical knowledge gained in KS3, where they will make links between how mechanisms and forces change movement in advanced mechanical systems. **Electrical Systems:** The last unit of DT in Year Six, focusses on making links between coding within the computing system and the role this can have within output for specific products- children will design, make and evaluate a pedometer for an athlete. This unit will require children to apply their existing knowledge of the design cycle alongside application of their understanding of inputs and outputs within computer control systems. Within this unit, children will study the work of Jonathon Ives and his influence on modern life today. This unit of work will provide a basis for their KS3 knowledge to use electronics to embed intelligence within a product and will further build upon their understanding of CAD and CAM.