Design Technology Long-term Overview 25/26	AUTUMN	SPRING	SUMMER
Year 1	**Moving Pictures** Children will learn: 1. what a moving mechanism is and how to create one. 2. what levers and pivots are and how to create this mechanism. 3. what a wheel mechanism is and how to create one. 4. to design a moving picture that has one of the previously learnt moving mechanisms. 5. to follow their designs to create their moving picture. 6. to evaluate their own moving pictures.	**Homes** Children will learn: 1. about the various types of houses people live in around the world, as well as the shapes you find in houses. 2. to join and combine shapes to make a house. 3. to design a house using their previously learnt knowledge. 4. to create their houses using the knowledge they have previously learnt. 5. to evaluate their work.	**Eat More Fruit and Vegetables** Children will learn: 1. fruits and vegetables. 2. to describe the different features of fruits and vegetables. 3. about food preparation using different tools safely and using the appropriate associated language. 4. about the importance of eating more fruit and vegetables than certain other groups of foods. 5. to evaluate what they have learnt about fruits and vegetables and their recipe designs.
Year 2	**Creating Paper Toys** Children will learn: 1. about different types of scissors and their uses. 2. about scissor safety. 3. how to use scissors to cut straight, zigzag and wavy lines. 4. the skills of folding and cutting through several layers of paper by making paper chains. 5. how a selection of different paper toys work and how they can be made.	**Flying Kites** Children will learn: 1. about kites made in different countries and what they are used for. 2. about materials that could be used to make different kites. 3. what a carp kite is and why it is flown on Children's Day in Japan. 4. about a diamond kite. 5. to use a range of materials to follow their plan and make a diamond kite. 6. to evaluate the kite-making process.	**Teddy Bear's Picnic** Children will learn: 1. about different picnic foods and where they have come from. 2. what are the most appropriate foods to take on a picnic. 3. to make Teddy Bear Biscuits by following a set of instructions. 4. to design a healthy food skewer to take on a picnic.

	6. what an illusion is. 7. about an example of an optical illusion, the thaumatrope how to make one. 8. how to design their own images for their illusion and how to use their cutting skills to create the toy.		5. to follow their designs to make their food skewers, remembering to be safe and careful. 6. to evaluate their picnic food.
Year 3	**Functions of Fabric** Children will learn: 1. what a fabric is. 2. about the differences in natural and synthetic fabrics. 3. about different materials and how sustainable they are. 4. about different types of stitch and fastenings to join fabrics and what stitch is the most secure. 5. what a design brief and design criteria are. 6. to construct and evaluate the bags they have designed.	**Moving Monsters** Children will learn: 1. about objects that use air to make them work. 2. about simple pneumatic systems. 3. about the use of pneumatic systems in a moving monster toy/model. 4. to develop their ideas about the use of pneumatic systems in a moving monster toy/model. 5. to create their moving monster toys/models. 6. to evaluate both their process and their finished product.	**Seasonal Food** Children will learn: 1. why certain British foods are seasonal and why foods from other parts of the world are available all year round. 2. how and when a variety of fruits are produced in Britain, including how farming methods are used to slow down or speed up the ripening process. 3. about a variety of vegetables grown in Britain, when they are in season, and why they are important in a healthy diet. 4. about the nutritional value of meat, eggs and dairy products. 5. why some meats are seasonal and some are available all year round. 6. how, where and when fish is farmed or caught in Britain and some issues associated with fishing. 7. about some unusual foods that are only in season for a brief period each year.
Year 4	**British Inventors** Children will learn: 1. about Alexander Graham Bell and his invention of the telephone. 2. about the differences between the internet and the WWW. 3. about WB Wilkinson's invention of reinforced concrete and ways that it has been used to build record-breaking buildings.	**Light-Up Signs** Children will learn: 1. about the purposes of illuminated signs and ways in which signs may be illuminated. 2. how LEDs may be used in simple series circuits (along with a resistor). 3. ways in which electrical components in a simple circuit can be partially 'hidden' inside products to make them more attractive.	**Sandwich Snacks** Children will learn: 1. about the nutritional content of a variety of sandwiches and fillings. 2. identify, taste, describe and sort a variety of different breads and sandwich fillings. 3. to devise their own sandwich recipe, selecting bread and filling. 4. to make their own sandwiches.

	4. about the invention of waterproof fabric and the subsequent invention of the mackintosh. 5. which inventions have changed people's lives the most.	4. about the pros and cons of using different materials in the construction of a decorative light box sign. 5. ways in which they can make more permanent circuits to fit and fix inside their finished decorative illuminated light box signs. 6. ways in which lights in electronic products may be programmed and controlled.	5. to evaluate their own process as well as their finished product.
Year 5	**Fashion and Textiles** Children will learn: 1. how some natural and synthetic textiles are produced and consider their uses in clothing. 2. ways in which textiles may be joined and decorated. 3. how fashion designers use pattern pieces when making products. 4. how to pin and hand-sew fabric pieces together. 5. how to finish a hand-sewn product.	**Making Instruments** Children will learn: 1. to appraise some traditional African music and discuss the music as a genre. 2. to identify the types of instruments they can hear. 3. to research and analyse a selection of African instruments and how they make their sounds. 4. to follow their designs making sure they consider the decorations for their instrument as well as making it functional. 5. about the percussion instruments: shekeres and djembe drums - how they make their sounds. 6. what materials these traditional instruments are made from. 7. to design their own African instrument, could be as a combination of instruments. 8. to construct and decorate their percussion instruments following their design. 9. to evaluate their product against a set of success criteria that they have generated themselves, including the functionality of their products.	**Burgers** Children will learn: 1. about different burgers and restaurants and their nutrition facts. 2. how to check the nutrition fact labels. 3. different methods for cooking burger patties. 4. about the additional ingredients that may be found in burgers, such as vegetables and sauces, as well as accompanying side dishes. 5. about a range of burger buns and their suitability. 6. to plan and design their own burger. 7. to create their burgers and evaluate the process.
Year 6	**Building Bridges** Children will learn: 1. how simple bridges are constructed using beams, pillars or piers. 2. how trusses are used in bridge design to spread out compression forces.	**Programming Pioneers** Children will learn: 1. that many more complex electrical products are controlled using embedded computer systems, often with microcontrollers with specially written programs on them.	**Great British Dishes** Children will learn: 1. about some national savoury dishes of England, the origin of each one and how healthy it is.

	3. how arches are used to spread and redirect compression forces acting on bridges. 4. how suspension bridges use tension to support bridge decks spanning large distances. 5. to develop criteria for a bridge design that will meet the terms of the brief. 6. ways in which they might test their bridge design once constructed.	2. about the work of computer hardware and software engineers, and about some famous computer engineering partnerships. 3. how a range of electronic components in products might work. 4. how pioneering computer scientists made computers easier to use over time. 5. to design a product such as an automatic light or an alarm/door entry buzzer that could be installed in a room. 6. more about why and how microcontrollers are used to control electronic products. 7. how to 'debug' a simple program written to control a switch and an LED. 8. why we make prototype models. 9. how using models to explain ideas can be interesting and inspiring. 10. to evaluate their own product designs and design process.	2. about the RDA (Recommended Daily Allowance) values for sugar. 3. about seasonal fruits as a natural source of sugar for ingredients of desserts. 4. how oats, a staple crop in Scotland, are grown, harvested and processed. 5. about the importance of sheep farming in Wales and how this has led to lamb becoming a popular ingredient in a lot of Welsh food. 6. how and why the cuisines of other countries have influenced British dishes over the years, with a focus on Anglo-Indian food. 7. about the shelf life of different products and the difference between 'best before' and 'use by' labels. 8. the steps that need to be taken in order to plan and shop for a specific meal.