



St. George's Catholic Primary School

To learn with kindness, respect and friendship through God's love



Design Technology Knowledge and Skills Progression Map

Year	Term	Scheme of Work	Cookery and Nutrition
1	Sum	Eat more fruit and vegetables	<ul style="list-style-type: none"> I can name a variety of fruits and vegetables. I can use adjectives to describe the taste, smell and texture of a variety of fruits and vegetables. I know that some fruits and vegetables need to be washed, cut, cored, peeled or grated before they can be eaten. I understand basic food hygiene, e.g. washing hands, tying long hair back and keeping surfaces clean. I can use a knife to cut some fruits and vegetables in different ways. I can grate an apple and a carrot. I can peel a banana, apple and cucumber.
2	Aut	Perfect Pizzas	<ul style="list-style-type: none"> I can name a variety of pizza toppings. I can use the model of the balanced plate to evaluate how healthy different pizzas are. I can explore different types of bread and evaluate which would work best for a pizza base. I can identify which food group a variety of pizza toppings belong to. I can sort pizza toppings into groups based on different criteria, e.g. animal vs plant products. I can explain why each of the food groups is important for a balanced diet. I can design and make a healthy pizza following given criteria. I can evaluate my finished pizza, saying what I think and feel about it.
3	Spr	Seasonal Food	<ul style="list-style-type: none"> I can explain what the term 'seasonal food' means. I know that different parts of the world have different seasonal food. I can discuss the benefits and problems of unseasonal food being available in shops all year round. I know that some foods, like wheat, are available all year round in the UK. I can practise cooking skills including slicing, dicing, beating, whisking, folding, sieving, rolling and grating. I can follow a recipe to make fairy cakes. I can describe the cycle of wheat production in the UK. I can distinguish between fruits that are grown in the UK and those that are grown abroad. I know how food producers can speed up or slow down the ripening process to make fruits and vegetables available all year round. I can follow a recipe to make fruit tarts using seasonal fruit. I can follow a recipe to make stuffed peppers. I know some of the nutrients we get from fruits, vegetables, meat, fish and dairy products. I know when certain meats are in season in the UK and which are available all year round. I can follow a recipe to make meatballs. I know some vegetarian options that provide the same nutrients as meat. I can explain how fish are caught or reared, processed and used in healthy meals. I can use what I have learnt about seasonal food to design healthy meals and menus.
4	Spr	American food	<ul style="list-style-type: none"> I can suggest ways in which America's diverse climate regions affect the food they grow. I can measure and mix ingredients. I can cut out, shape and mould pastry. I can follow a recipe for a traditional American food. I can modify a recipe for a traditional American food. I can describe some ways in which indigenous Americans grew, caught, gathered, prepared, and cooked food. I can use safe knife techniques for cutting medium and higher resistance foods. I can suggest differences between foods eaten by rich and poor, or free and enslaved, Americans. I can select and use appropriate apparatus to measure, sift, mix and pour when following a recipe. I can explain how and why some food changes when it is heated. I can describe some features of Mexican food. I can snip, cut and shred food safely, using appropriate apparatus. I can, with support and supervision, use a hob to heat food. I can describe ingredients which are unhealthy when eaten regularly in large quantities. I can identify aspects of their own cooking skills which I wish to improve I can work with others to prepare a shared meal.
5	Spr	Biscuits	<p>I can recognise and describe different types of biscuits.</p> <p>I can carry out research to find out people's preferences.</p> <p>I can analyse the results of my research.</p> <p>I can use appropriate vocabulary to describe products including their sensory characteristics.</p> <p>I can compare biscuits in terms of appearance, flavour, texture and cost</p> <p>I can draw conclusions from investigations.</p> <p>I can suggest ways of altering a basic biscuit recipe.</p> <p>I can generate and develop design ideas.</p> <p>I can plan the main stages of making and use specifications to inform my designs.</p> <p>I can follow safety procedures for food safety and hygiene.</p> <p>I can follow a recipe to make biscuits.</p> <p>I can use finishing techniques to improve the appearance of my biscuits.</p> <p>I can evaluate a finished product against design specifications.</p> <p>I can identify ways in which I could improve my finished product.</p> <p>I can identify ways to alter the product if I were to make it again.</p>
6	Spr	Great British Dishes	<ul style="list-style-type: none"> I know the origins of some traditional English savoury dishes. I can cut and chop vegetables safely. I can combine ingredients and follow a recipe. I can name some English desserts. I understand RDA for sugar and how to identify the sugar content on food packaging. I understand the seasonality of different British fruits. I know how oats are grown, harvested and produced. I know some traditional Scottish dishes and their main ingredients. I can design/follow a simple recipe. I know some traditional Welsh dishes and their main ingredients. I can give my opinion of different ingredients. I can follow and adapt a given recipe. I understand what 'cuisine' means. I understand that the cuisine of different countries can influence and be similar to each other. I can research, record and share my knowledge. I understand that different food products have different 'shelf-lives'. I understand how to plan and cost a meal. I can give general kitchen health and safety advice.

Year	Term	Scheme of Work	Structures
1	Spr	Playgrounds	<ul style="list-style-type: none"> I can choose appropriate materials and explore different ways of combining them for a particular purpose. I can identify and investigate ways of strengthening my models to make them sturdy. I can discuss how effective my models are. I can draw labelled diagrams of my designs. I can describe the materials and tools I need to create my model. I know the steps needed to take to create a piece of playground equipment. I can follow designs to create playground equipment. I can join materials together appropriately to create sturdy structures. I know what evaluation is and why it is important. I can evaluate finished products fairly.
4	Aut	British Inventors	<ul style="list-style-type: none"> I can explain how concrete is used to make structures more stable. I can create a structure strong enough to hold a dictionary using just newspaper and tape.
5	Aut	Building Bridges	<ul style="list-style-type: none"> I know what beams and pillars are and how they are used in bridge construction. I can predict which beams will be strongest from their cross-section. I can test the strength of different beam shapes using paper and card. I can explain what a truss is and how trusses make bridges stronger. I can identify the three types of trusses commonly used in bridge design. I can build a truss bridge spanning a width of 40cm using paper straws. I can use a fair test to evaluate the strength of my truss bridge. I can explain how arches work to make bridges stronger. I can test the arch heights to see which can bear the most load. I can make an arch frame. I can explain how suspension bridges use tension forces to work. I can design, make and evaluate a prototype suspension bridge using a scale of 1:100 according to specific design criteria

Year	Term	Scheme of Work	Programming and Electrical Systems
4	Sum	Alarms	<ul style="list-style-type: none"> I recognise the uses to which alarm systems can be put. I understand that switches work in different ways. I understand the dangers of mains electricity. I can explain how a simple circuit works. I can experiment with different ways of creating circuits and switches. I know how to work safely with electricity. I can design an alarm system that is suitable for a particular purpose. I can apply what I have learnt about alarms, circuits and switches when designing my own alarm system. I can discuss and finalise designs. I can use a variety of electrical components accurately. I understand why evaluation is an important part of the designing and making process. I can evaluate my own finished products fairly. I can discuss my work and the work of others fairly.
6	Sum	Programming Pioneers	<ul style="list-style-type: none"> I can explain how computers and computer programs are used in a variety of products. I can explain how modern memory chips work to store information. I can write an algorithm to suggest how various appliances might work. I know what a computer engineer is and what they do. I can describe some examples of how computer hardware and software specialists work together to create new products. I can develop and build a prototype pedestrian crossing using computer programming. I can develop, model and communicate ideas for an embedded system which monitors and controls a door, room or both. I can describe the typical design process for computer-controlled electronic products. I can debug errors in an algorithm. I can suggest ways to change an algorithm to improve a system. I can select and use electronic components to construct a prototype of an embedded computer-controlled room system. I can evaluate my design for a computer-controlled system and consider the views of others to improve my work.

Year	Term	Scheme of Work	Mechanisms and Mechanical Systems
2	Spri	Moving Minibeasts	<ul style="list-style-type: none"> I can make a sliding mechanism out of card. I know what a pivot and lever are. I can use a pivot and lever mechanism using card and a split pin. I can make a wheel mechanism using card and a split pin. I can match a mechanism to the type of movement they produce. I can design a moving minibeast picture to include a variety of moving mechanisms. I can follow a design to create a moving minibeast picture for a particular purpose. I can evaluate my finished moving minibeast picture by identifying things that worked well and things that could be improved.
3	Aut	Moving Monsters	<ul style="list-style-type: none"> I can recognise familiar objects that use air to make them work. I can describe how the objects use air to make them work. I can explain how simple pneumatic systems work using appropriate vocabulary. I can create simple pneumatics systems. I can suggest ways of using these pneumatic systems in moving monsters. I can investigate ways of using pneumatic systems with other materials to control movement. I know of different techniques for joining and fixing components. I can make effective pneumatic systems. I can use knowledge of pneumatic systems to design a moving monster part. I can describe what materials and components are need to create a moving monster. I can create a monster based on a design. I can construct an effective pneumatic system to control movement. I can work safely and effectively with a range of tools and techniques. I can identify successful areas of a finished product. I can identify areas that could be improved upon.

Year	Term	Scheme of Work	Textiles
1	Aut	Delightful Decorations	<ul style="list-style-type: none"> • I know what a decoration is and when they can be used. • I can explore a variety of decorations, sharing and explaining my opinions. • I know how to use scissors safely. • I can cut lines accurately. • I can cut out shapes accurately. • I can sew two pieces of material together. • I can attach buttons and other decorative materials onto a piece of fabric. • I can use the tools needed for sewing safely and sensibly. • I can design a decoration. • I can follow a design to make a decoration. • I can use cutting and sewing skills. • I understand what it means to evaluate. • I can evaluate their own decoration. • I can identify ways to improve my decoration.
2	Sum	Puppets	<ul style="list-style-type: none"> • I can explore a variety of puppets, identifying and labelling their features. • I can cut out felt using a simple template. • I can stick pieces of felt together to make a finger puppet. • I can add pieces of felt and other materials to a finger puppet to create features, such as eyes, hats and mouths. • I can use running stitch to join two pieces of fabric together. • I can use overstitch to join two pieces of fabric together. • I can sew a button onto a piece of fabric. • I can design a glove puppet for a particular purpose. • I can follow a design to make a glove puppet by sewing two pieces of fabric together and adding decorations. • I can evaluate my finished glove puppet by identifying what went well and what could be improved.
5	Sum	Funky Furnishings	<ul style="list-style-type: none"> • I understand the terms 'functional' and 'aesthetic'. • I can investigate and analyse an existing cushion cover in detail. • I can compare and contrast existing cushion covers. • I know how to sew different stitches. • I can join two pieces of fabric together using their sewing skills. • I can explain which stitch is best for a particular purpose. • I can use stitching for decorative purposes. • I can sew a button/bead/ribbon onto fabric accurately. • I can talk about the advantages and disadvantages of the different types of fastenings. • I can use sewing skills to create a secure fastening. • I can assess which fastening would be the most suitable for a particular product. • I can create a design according to specific criteria. • I can explain my design and the techniques to be used. • I can follow a design to create a finished product. • I can successfully use a range of sewing techniques. • I can evaluate my own and others' work.
6	Aut	Fashion and Textiles	<ul style="list-style-type: none"> • I can explain the process of turning raw cotton into cloth. • I know that products that are woven together are called textiles. • I know that different textiles have different properties, and can match these to their purpose. • I can identify straight stitch, zigzag stitch, whip/blanket stitch, blind stitch, buttonhole stitch and overlock stitch on a variety of ready-made garments. • I can describe what the job of a fashion designer entails. • I can sew a basting stitch. • I can sew a whip stitch. • I can sew a hem. • I can sew back stitch. • I can sew an appliqué decoration. • I can use back stitch to embroider. • I know what a pattern piece is and why they are important when designing a garment. • I can design a drawstring bag, including the necessary pattern pieces. • I can use pattern pieces to measure, mark, cut and sew fabric. • I can sew design elements according to design criteria. • I can join two pieces of fabric by hand sewing, using an appropriate stitch. • I can evaluate my finished product against a set of design criteria.

Year	Term	Scheme of Work	Architecture, Inventions and Achievements
4	Aut	British Inventors	<ul style="list-style-type: none"> • I can explain about the invention of the mackintosh. • I can investigate ways of making fabric waterproof. • I can explain about the invention of the world wide web. • I can describe how the invention of the internet has changed the world.
6	Sum	Programming Pioneers	<ul style="list-style-type: none"> • I know that Charles Babbage created the first mechanical computer. • I know that Ada Lovelace is referred to as the world's first computer programmer. • I know that Steve Jobs and Steve Wozniak co-founded Apple, Inc. to make the first Apple computers.