A progression in Design Technology from Reception to Year 7

	EYFS	Key Stage one	Lower Key Stage two	Upper Key Stage two	Key Stage three
Design	Explore, use and refine a variety of artistic effects to express their ideas and feelings. 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. Develop their own ideas and then decide which materials to use to express them.	To use their knowledge of existing products and their own experience to help generate their ideas Design products that have a purpose and are aimed at an intended user Explain how their products will look and work through talking and simple annotated drawings Plan and test ideas using templates and mock-ups; understand and follow simple design criteria Work in a range of relevant contexts, for example imaginary, story-based, home, school and the wider environment.	Identify the design features of their products that will appeal to intended customers. Use their knowledge of a broad range of existing products to help generate their ideas. Design innovative and appealing products that have a clear purpose and are aimed at a specific user. Use annotated sketches and cross-sectional drawings to develop and communicate their ideas. When designing, explore different initial ideas before coming up with a final design. When planning, start to explain their choice of materials and components including function and aesthetics. Develop and follow simple design criteria.	Use research to inform and develop detailed design criteria to inform the design of innovative, functional and appealing products that are fit for purpose and aimed at a target market. Use their knowledge of a broad range of existing products to help generate their ideas. Design products that have a clear purpose and indicate the design features of their products that will appeal to the intended user. Generate a range of design ideas and clearly communicate final designs. Consider the availability and costings of resources when planning out designs. Work in a broad range of relevant contexts, for example conservation, the home, school, leisure, culture, enterprise, industry and the wider environment. Create step-by-step plans as a guide to making.	Use research and exploration, such as the study of different cultures, to identify and understand user needs Identify and solve their own design problems and understand how to reformulate problems given to them Develop specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations Use a variety of approaches [for example, biomimicry and user-centred design], to generate creative ideas and avoid stereotypical responses Develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools

Make	Use one-handed tools and equipment, for example, making snips in paper with scissors. Use large-muscle movements to wave flags and streamers, paint and make marks. Choose the right resources to carry out their own plan. Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park. Create closed shapes with continuous lines, and begin to use these shapes to represent objects. Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Use a range of small tools, including scissors, paintbrushes and cutlery. Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	With support, follow a simple plan or recipe. Begin to select from a range of hand tools and equipment, such as scissors, graters, zesters, safe knives, juicer. Select from a range of materials, textiles and components according to their characteristics. Use a range of materials and components, including textiles and food ingredients. With help, measure and mark out. Cut, shape and score materials with some accuracy. Assemble, join and combine materials, components or ingredients. Demonstrate how to cut, shape and join fabric to make a simple product. Manipulate fabrics in simple ways to create the desired effect. Use a basic running stich. Begin to use simple finishing techniques to improve the appearance of their product, such as adding	With growing confidence, carefully select from a range of tools and equipment, explaining their choices. Select from a range of materials and components according to their functional properties and aesthetic qualities. Learn to use a range of tools and equipment safely, appropriately and accurately and learn to follow hygiene procedures. Use a wider range of materials and components, including construction materials and kits, textiles and mechanical and electrical components. With growing independence, measure and mark out to the nearest cm and millimetre. Cut, shape and score materials with some degree of accuracy. Assemble, join and combine material and components with some degree of accuracy. Demonstrate how to measure, cut, shape and join fabric with some accuracy to make a simple product. Join textiles with an appropriate sewing technique.	Independently plan by suggesting what to do next. With growing confidence, select from a wide range of tools and equipment, explaining their choices. Learn to use a range of tools and equipment safely and appropriately and learn to follow hygiene procedures. Independently take exact measurements and mark out, to within 1 millimetre. Use a full range of materials and components, including construction materials and kits, textiles, and mechanical components. Cut a range of materials with precision and accuracy. Shape and score materials with precision and accuracy. Assemble, join and combine materials and components with accuracy. Demonstrate how to measure, make a seam allowance, tape, pin, cut, shape and join fabric with precision to make a more complex product. Join textiles using a greater variety of stitches, such as backstitch, whip stitch, blanket stitch; Refine the finish using techniques to improve the appearance of their product, such as sanding or a more precise scissor cut after roughly cutting out a shape.	Select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture. Select from and use a wider, more complex range of materials, components and ingredients, taking into account their properties

Evaluate	Share their creations, explaining the process they have used. Return to and build on their previous learning, refining ideas and developing their ability to represent them.	Explore and evaluate existing products mainly through discussions, comparisons and simple written evaluations. Explain positives and things to improve for existing products; Explore what materials products are made from. Talk about their design ideas and what they are making. As they work, start to identify strengths and possible changes they might make to refine their existing design. Evaluate their products and ideas against their simple design criteria; Start to understand that the iterative process sometimes involves repeating different stages of the process.	Explore and evaluate existing products, explaining the purpose of the product and whether it is designed well to meet the intended purpose. Explore what materials/ingredients products are made from and suggest reasons for this; Explain how particular parts of their products work. Consider their design criteria as they make progress and are willing to alter their plans, sometimes considering the views of others if this helps them to improve their product. Evaluate their product against their original design criteria. Evaluate the key events, including technological developments, and designs of individuals in design and technology that have helped shape the world.	Complete detailed competitor analysis of other products on the market. Critically evaluate the quality of design, manufacture and fitness for purpose of products as they design and make. Evaluate their ideas and products against the original design criteria, making changes as needed. Explain how particular parts of their products work;	Analyse the work of past and present professionals and others to develop and broaden their understanding. Investigate new and emerging technologies Test, evaluate and refine their ideas and products against a specification, taking into account the views of intended users and other interested groups Understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists
Technical knowledge	Explore different materials freely, in order to develop their ideas about how to use them and what to make. 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.	Build simple structures, exploring how they can be made stronger, stiffer and more stable. Talk about and start to understand the simple working characteristics of materials and components; Explore and create products using mechanisms, such as levers, sliders and wheels.	Understand that materials have both functional properties and aesthetic qualities. Apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products. Understand and demonstrate how mechanical and electrical systems have an input and output process. Make and represent simple electrical circuits, such as a series and parallel, and components to create functional products. Explain how mechanical systems such as levers and linkages create movement; Use mechanical systems in their products.	Apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products. Understand and demonstrate that mechanical and electrical systems have an input, process and output. Explain how mechanical systems, such as cams, create movement and use mechanical systems in their products. Apply their understanding of computing to program, monitor and control a product.	Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions. Understand how more advanced mechanical systems used in their products enable changes in movement and force. Understand how more advanced electrical and electronic systems can be powered and used in their products [for example, circuits with heat, light, sound and movement as inputs and outputs] Apply computing and use electronics to embed intelligence in products that respond to inputs [for example, sensors], and control outputs [for example, actuators], using programmable components [for example, microcontrollers].

Cooking and nutrition	Understand the importance of healthy food choices. To recognise healthy and unhealthy foods. Make a sandwich in a collaborative setting. Talk about how my sandwich makes me feel.	Explain where in the world different foods originate from. Understand that all food comes from plants or animals. Understand that food has to be farmed, grown elsewhere (e.g. home) or caught. Name and sort foods into the five groups in the Eatwell Guide. Understand that everyone should eat at least five portions of fruit and vegetables every day and start to explain why. Use what they know about the Eatwell Guide to design and prepare dishes. Learn to use hand tools and kitchen equipment safely and appropriately and learn to follow hygiene procedures. Cut, peel and grate ingredients, including measuring and weighing ingredients using measuring cups.	Start to know when, where and how food is grown (such as herbs, tomatoes and strawberries) in the UK, Europe and the wider world. Understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically. With support, use a heat source to cook ingredients showing awareness of the need to control the temperature of the hob and/or oven. Use a range of techniques such as mashing, whisking, crushing, grating, cutting, kneading and baking. Explain that a healthy diet is made up of a variety and balance of different food and drink, as represented in the Eatwell Guide and be able to apply these principles when planning and cooking dishes. Understand that to be active and healthy, nutritious food and drink are needed to provide energy for the body. Prepare ingredients using appropriate cooking utensils; Measure and weigh ingredients to the nearest gram and millilitre. Start to independently follow a recipe. Start to understand seasonality.	Know, explain and give examples of food that is grown (such as pears, wheat and potatoes), reared (such as poultry and cattle) and caught (such as fish) in the UK, Europe and the wider world. Understand about seasonality, how this may affect the food availability and plan recipes according to seasonality. Understand that food is processed into ingredients that can be eaten or used in cooking. Demonstrate how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source. Demonstrate how to use a range of cooking techniques, such as griddling, grilling, frying and boiling. Explain that foods contain different substances, such as protein, that are needed for health and be able to apply these principles when planning and preparing dishes. Adapt and refine recipes by adding or substituting one or more ingredients to change the appearance, taste, texture and aroma. Alter methods, cooking times and/or temperatures. Measure accurately and calculate ratios of ingredients to scale up or down from a recipe. Independently follow a recipe.	Understand and apply the principles of nutrition and health. Cook a repertoire of predominantly savoury dishes so that they are able to feed themselves and others a healthy and varied diet. Become competent in a range of cooking techniques [for example, selecting and preparing ingredients; using utensils and electrical equipment; applying heat in different ways; using awareness of taste, texture and smell to decide how to season dishes and combine ingredients; adapting and using their own recipes]. Understand the source, seasonality and characteristics of a broad range of ingredients.

Key Vocabulary	Make, idea, paper, card, paint, glue, cut, stick, pen, pencil, scissors, join, split pins, movement, cutting Names of colours, red, blue, green, yellow, purple, pink, orange etc. Describing materials, bumpy, smooth, shiny, hard, soft. Healthy, vegetables, fruit, knife, fork, spoon, rolling pin, cutter, mat, bowl, sandwich, bread, plate, marmalade, jam, feelings	investigating, planning, design, make, evaluate, user, purpose, ideas, design criteria, product, function cutting, joining, shaping, finishing, joining and finishing techniques, tools, fabrics and components, template, pattern pieces, mark out, join, decorate, finish fruit and vegetable names, names of equipment and utensils sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients	evaluating, design brief design criteria, innovative, prototype, user, purpose, function, prototype, design criteria, innovative, appealing, design brief, planning, annotated sketch, sensory evaluations mechanism, lever, linkage, pivot, slot, bridge fabric, names of fabrics, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance name of products, names of equipment, utensils, techniques and ingredients texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet	design decisions, functionality, authentic, user, purpose, design specification, design brief, innovative, research, evaluate, design criteria, annotate, evaluate, mock-up, prototype seam, seam allowance, wadding, reinforce, right side, wrong side, hem, template, pattern pieces, name of textiles and fastenings used, pins, needles, thread, pinking shears, fastenings, pulley, drive belt, gear, rotation, spindle, driver, follower, axle, motor, circuit, switch, circuit diagram, annotated drawings, exploded diagrams, mechanical system, electrical system, input, process, output ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble	