



Design and Technology Knowledge and Skills Progression (Scampton CE Primary School)

							
	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Food and nutrition	Cooking skills to be taught from Y1. By the end of KS2 children need to be proficient in: - Peeling, Chopping, Slicing, Grating, Mixing, Spreading, Kneading, Cooking using a heat source, Stirring, Stirring a heated pan						
	Know the importance of good health and a healthy diet. Explore objects with hands	Know where food comes from Cut food safely Tasting and describing Select tools for a purpose. Select ingredients based on taste	Measuring ingredients Safe cutting Hygiene Describe the ingredients	Applying the principles of a healthy diet Follow a recipe Seasonality Select tools and equipment suitable for the task			Work out ratios in recipes Adapting recipes for appearance, taste, texture, aroma, cultures Use a technique that involves a number of steps
Structures	Join materials together Explore objects with hands	Decide which materials are suitable for structure Build structures exploring how they can be made stronger, more stable Select tools for a purpose. Select a range of components and materials	Join materials in different ways. Measure materials. Mark, measure and make templates Explore and perfect ways of fixing materials	Work accurately to measure, make cuts and make holes. Select tools and equipment suitable for the task		Know that materials have functional and aesthetic qualities. Know that 3d textiles can be combined to make a product Make a prototype Make accurate measurements to nearest MM Use tools for accurate assembly	
Mechanisms	Operating simple mechanisms. Explore objects with hands Make an object move by pushing / pulling	Year A: Wheels / axles: make a product which moves. Select tools for a purpose. Select a range of components and materials		Understand and use mechanical systems. Make a product which uses electrical components. Select materials and components suitable for the task Make accurate measurements to nearest CM		Apply understanding of computer programming to program, monitor and control products. Use a technique that involves a number of steps	
		Year B: Levers, slides: make a product which moves. Select tools for a purpose. Select a range of components and materials					

Designing	Design and label a junk model	Generate ideas for a design. Design a functioning appealing product for themselves and others based on own design criteria Label drawing and explain a simple plan. Describe how my design will work.	Think of an idea and plan what to do. Explain the need for a product and what it needs to do. Explain why I have chosen certain materials.	Consider the needs of individuals and groups to create a design brief. Make a step by step plan.	Use the ideas of experts and existing designs to help design product. Make a detailed plan and explain it (specification).	Gather ideas through a range of research methods. Develop alternative plans. Produce a design specification.	Identify the needs, wants, preferences and values of individuals and groups. Use market research to inform my planning. Justify my plans and ideas. Consider culture, society and environment in plans and designs.
Evaluating	Say whether a model is similar to the design. Say if my model does the job I wanted it to.	Explain if product was successful. Ask other people what they think of my product.	Make simple judgements – what went well, what didn't go well. Say whether the product fulfilled the design criteria. Suggests how products can be improved.	Identify the strengths and weaknesses of ideas. Evaluate existing products – what works better than others.	Consider the views of others including intended users to improve the work. Evaluate my design and suggest improvements. Evaluate the product for purpose and appearance.	Critically evaluate the quality of design, manufacture and if it fulfils the design brief.	Compare ideas to original design brief Investigate cost, innovation and sustainability. Test and fully evaluate the product against clear criteria. Make refinements to the product
General knowledge	Technology is in home and school.	Famous buildings	International foods – what and where from	Bridges - types of bridge	How to crack an egg	Fashion designers	Transport Who invented the ... Bike Car Plane Hovercraft Train
Specific Concepts	Explore	What is a design? Design	What is technology? Develop	Mechanism Model Design can be for different people Refine	Design can be made from a range of materials Innovate	Design will alter depending on different resources available Adapt	Application of DT in new and wider contexts Apply
Vocabulary	Join Label Decorate	Design Structure Material Equipment Evaluate Construct Investigate	Mechanism Properties Function Method Template Technique Sequence Strengthen	Identify Resource Outcome Refine Assemble Reinforce Disassemble	Alternative Communicate Project Guideline Specification Prototype Research Analyse	Category Precise Dynamic Uniform Qualitative Critical	Economy Environment Sustainable Proportion Input Innovate Fluctuate Virtual

Mathematical application			Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales and measuring vessels.	Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) Measure the perimeter of simple 2-D shapes.	Convert between different units of measure. Measure and calculate the perimeter of a rectilinear figure in centimetres. Find the area of rectilinear shapes by counting squares. Identify acute and obtuse angles.	Draw given angles, and measure them in degrees.	Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.
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DT Curriculum Phase 1 - Year B

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	Autumn Term		Spring Term		Summer Term	
	Food and Nutrition		Food	Structure	Food	Mechanism
	Nutrition	Shortbread face	Pancakes	Moon Buggy / Planet decoration	Fruity Coleslaw	Slider moving picture
Knowledge	Food hygiene Know the different types of nutrition: fats, proteins, fibre, dairy, fruit and vegetables Learn how different types of food help our bodies in different ways. Know some foods which belong in each food groups. Learn what we mean by a balanced diet Establish that it is ok to have treats in moderation. Learn why breakfast is important.	To taste shortbread and determine what are the characteristics of it. Discuss how is it different to a biscuit? Evaluate what we like and dislike and how this will influence our own creation. Food safety around using an oven. Discuss the importance of accuracy of measurements and attention to detail.	Importance of not having the pan too cool or too hot. Food safety around using a hob. Suitable temperature.	Moon Buggy <i>Note this topic also touches on a form of mechanism – axel and wheels.</i> Decide what materials are suitable for the body. Discuss how we can ensure our designs are strong and stable. Learn about the role of an axel and wheels and how they work. Learn how to attach an axel and the importance of ensuring they are level. Learn how different materials can be joined inc glue, tape, staples or paper fasteners. Discuss what features to include so that the moon buggy would be fit for purpose as a moon buggy, Planet <i>(DT and ART some of the decoration are collage some structures)</i> Learn that different joining techniques can be used and these can add stability. Inc: flange joints, slots, L Brace, tabs and but joints. Consider different materials and how some materials are easier than others to attach or provide different levels of flexibility or stability.	Know where food comes from – Animal, plant or animal and plant. Learn how to cut fruit and vegetables safely.	DT and Art as some of the decoration builds on our spring learning of collage. Learn about different forms of mechanism: levers, sliders, axel and wheels. Recall we have already used axels and wheels. Learn we are going to create a moving picture using a slider.

	Design		Draw a design a shortbread face. Design the features in icing and sweets. Label the features. Write a list of what makes a good shortbread.	Design Design a pancake Explore different topping choices. Explain why you have decided on your design.	Generate ideas for features. Select and decide on a range of components and materials. Label design and explain a simple plan. Decide on what features to include and the resources to be used. Consider how they will be attached and what will be used to attach them.	Write a shopping list to Mr Hebborn for what you will need to make your fruity coleslaw. Learn that some foods need to be kept in the fridge and some don't and why this is.	Create a setting design for a moving picture. Consider appealability as a picture. Label the materials you need, consider why you have chosen specific materials. Ensure you have identified where the moving object will be placed and where the hole punch is needed is on your design.
	Make		Skills: Weighing Sieving Rolling Mixing Kneading Cutting with a cutter Piping bag – icing	Skills: Weighing Pouring Cracking Heating Melting Frying Squeeze Whisk Write instructions for how to make a pancake.	Select materials in accordance with your plan. Join materials in different ways. Explore with different ways of fixing materials. Learn how to make the fixings more stable, stronger and stiffer.	Skills Washing Chopping Peeling Grating Mixing Stirring	Use collage to create a picture in line with the details on your plan. Measure accurately where to hole punch and use a rule to ensure your hold are level and you cut the line as straight as possible.
	Evaluate		To evaluate the size, texture, decoration and taste. (Through discussions with peers and teachers). What did we agree we liked and didn't like about our shortbread.	Evaluate why some pancakes were a success and why others were not. What do you consider it the reason for the success and fails? How could you make it better in the future? What tips will you give you parents when they make pancakes?	Discuss whether the design fulfilled the design criteria. Suggest how you could improve it. Make simple judgements about what went well and what didn't go well.	Taste the coleslaw you make. Evaluate it as: Green – its scrumptious Amber – its ok I'll eat it but I don't love it. Red – ooh no thank you not for me.	Explain if your design is successful. Complete a tick sheet evaluation report. Complete a class and peer evaluation of how we could do it differently in the future.
	Vocabulary						
		hygiene, healthy, fats, proteins, fibre, dairy, fruit and vegetables ,	mix, stir, measure, weigh, recipe, piping, kneading, hygienic, cutting, safely, design, equipment, evaluate, Instructions	mix, stir, measure, pour, weigh, recipe, hygienic, heat, safely, design, equipment, evaluate, Instructions, recipe, method, equipment, ingredients, whisk evaluate	Properties, function, technique, strengthen, flexible, join, attach, materials, stability, stable, label, design, components, features, flange joints, slots, L Brace, tabs and but joints, glue, tape, paper fastens, evaluate, axel, wheels circular motion,	Cut, slice, grate, mix, stir, measure, pour, squeeze, recipe, hygienic, heat, safely, design, equipment, evaluate, Instructions, recipe, method, equipment, ingredients,	Ruler, hole punch, slider, axel, wheels, accurate, evaluate, design, plan, materials, collage.

