



Moorland Primary School – Progression of Knowledge and skills in Design Technology

Year 6	Design	Make	Evaluate	Technical knowledge	Cooking and Nutrition
<p>Knowledge (Substantive)</p> <p>Topic: Food for life</p> <p>Topic: Engineer</p> <p>Topic: Make do & mend</p>	<p>1.To know how to design for the intended use of the product, what the targeted age range is and what the final appearance will be.</p>	<p>1.To understand the characteristics of different materials to select the most appropriate material for a purpose. (& Make do & mend)</p> <p>2.To know that pinning with dressmaker pins and tacking with quick, temporary stitches holds fabric together in preparation for and during sewing.</p>	<p>1.To know that products and inventions can be compared using a range of criteria. (& Engineer) (& Make do & mend)</p> <p>2.To know that people's lives have been improved in countless ways due to new inventions and designs. (& Engineer) (& Make do & mend)</p> <p>3. To know that design is an iterative process, meaning alterations and improvements are made continually throughout the manufacturing process. (& Engineer)</p>	<p>1.To know that strength can be added to a framework by using multiple layers.</p> <p>2.To know that precision is important in producing a finished product.</p> <p>3.To know that fastenings hold a piece of clothing together.</p>	<p>1.To know that eating a balanced diet is a positive lifestyle choice that should be sustained over time.</p> <p>2.To know that ingredients can usually be bought at supermarkets, but specialist shops may stock different items.</p> <p>3.To know that organic produce is food that has been grown without the use of man-made fertilisers, pesticides, growth regulators or animal feed additives.</p>



Moorland Primary School – Progression of Knowledge and skills in Design Technology

			4.To know that the significance of a designer or inventor can be measured in various ways.		
Year 6	Design	Make	Evaluate	Technical knowledge	Cooking and Nutrition
Skills (disciplinary knowledge) Topic: Food for life Topic: Engineer Topic: Make do & mend	1.Develop design criteria for a functional and appealing product that is fit for purpose, communicating ideas clearly in a range of ways.	1.Choose the best materials for a task, showing an understanding of their working characteristics. (& Make do & mend) 2.Pin and tack fabrics in preparation for sewing and more complex pattern work.	1.Create a detailed comparative report about two or more products or inventions. (& Engineer) (& Make do & mend) 2.Analyse how an invention or product has significantly changed or improved people's lives. (& Engineer) (& Make do & mend) 3. Demonstrate modifications made to a product as a result of	1.Select the most appropriate materials and frameworks for different structures, explaining what makes them strong. (& Make do & mend) 2.Select appropriate tools for a task and then use them safely and precisely. 3.Use different methods of fastening for function and	1.Plan a healthy daily diet, justifying why each meal contributes towards a balanced diet. 2.Follow a recipe that requires a variety of techniques and source the necessary ingredients independently 3.Explain how organic produce is grown.



Moorland Primary School – Progression of Knowledge and skills in Design Technology

			<p>ongoing evaluation by themselves and to others (& Engineer)</p> <p>4.Present a detailed account of the significance of a favourite designer or inventor.</p>	<p>decoration, including press studs, Velcro and buttons.</p>	
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Year 5	Design	Make	Evaluate	Technical knowledge	Cooking and Nutrition
<p>Knowledge (Substantive)</p> <p>Topic: Moving mechanisms</p> <p>Topic: Eat the seasons</p> <p>Topic: Architecture</p>	<p>1.To know that safety features are often incorporated into products that might cause harm.</p> <p>2.To know that a pattern piece is a drawing or shape used to guide how to make something.</p>	<p>1.To know that there are many rules for using tools safely and these may vary depending on the tools being used.</p> <p>2.To know that materials should be cut and combined with precision. (& Architecture)</p> <p>3.To know that many new designs and inventions influenced society.</p>	<p>1.To know that culture is the language, inventions, ideas and art of a group of people. (& Architecture)</p> <p>2.To know that a focus group is a small group of people whose reactions & opinions are taken and studied.</p> <p>3.To know how to test a product against the design criteria will highlight anything that needs improvement or redesign. (& Architecture)</p>	<p>1.To know that various methods can be used to support a framework. (& Architecture)</p> <p>2.To know that pneumatic systems use energy that is stored in compressed air to do work.</p>	<p>1.To know that a balanced diet gives your body all the nutrients it needs to function correctly. This means eating a wide variety of foods in the correct proportions.</p> <p>2. To know that sweet dishes are usually desserts, such as cakes, fruit pies and trifles. Savoury dishes usually have a salty or spicy flavour rather than a sweet one.</p> <p>3. To know that seasonality is the</p>



Moorland Primary School – Progression of Knowledge and skills in Design Technology

					time of year when the harvest or flavour of a type of food is at its best.
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Year 5	Design	Make	Evaluate	Technical knowledge	Cooking and Nutrition
<p>Skills (disciplinary knowledge)</p> <p>Topic: Moving mechanisms</p> <p>Topic: Eat the seasons</p> <p>Topic: Architecture</p>	<p>1. Explain the functionality and purpose of safety features.</p> <p>2. Use pattern pieces and computer-aided design packages to design a product.</p>	<p>1. Name and select increasingly appropriate tools for a task and use them safely</p> <p>2. Select and combine materials with precision. (& Architecture)</p> <p>3. Describe the social influence of a significant designer or inventor.</p>	<p>1. Explain how the design of a product has been influenced by the culture or society in which it was designed or made. (& Architecture)</p> <p>2. Survey users in a range of focus groups and compare results.</p> <p>3. Test and evaluate products against a detailed design specification and make adaptations as they develop the product. (& Architecture)</p>	<p>1. Build a framework using a range of materials to support mechanisms. (& Architecture)</p> <p>2. Use mechanical systems in their products, such as pneumatics.</p>	<p>1. Evaluate meals and consider if they contribute towards a balanced diet.</p> <p>2. Use an increasing range of preparation and cooking techniques to cook a sweet or savoury dish.</p> <p>3. Describe what seasonality means and explain some of the reasons why it is beneficial.</p>



Moorland Primary School – Progression of Knowledge and skills in Design Technology

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Year 4	Design	Make	Evaluate	Technical knowledge	Cooking and Nutrition
<p>Knowledge (Substantive)</p> <p>Topic: Fresh food, Good food</p> <p>Topic: Functional & fancy fabrics</p> <p>Topic: Tomb builders</p>	<p>1.To know how to make annotated sketches and exploded diagrams show specific parts of a design, highlight sections or show functions. (& Functional & fancy fabrics)</p> <p>2.To know that a comparison table can be used to compare products by listing specific criteria on which each product can be judged or scored.</p> <p>3.To know that mechanisms can be used to add</p>	<p>1.To know that different materials and components have a range of properties, making them suitable for different tasks (& Functional & fancy fabrics) (& Tomb builders)</p> <p>2.To know that block printing techniques and fabric paint are used to create decorative, repeated patterns on fabrics.</p> <p>3.To know a hem runs along the edge of a piece of cloth or clothing.</p>	<p>1.To know that significant designers and inventors can shape the world. (& Functional & fancy fabrics)</p> <p>2. To know that evaluation can be done by considering whether the product does what it was designed to do, has an attractive appearance, what changes were made during the making. (& Functional & fancy fabrics) (& Tomb builders)</p> <p>3.To know that design features are the aspects of a product's design that the designer would like to emphasise.</p>	<p>1. To know that a prototype is a mock-up of a design that will look like the finished product but may not be full size or made of the same materials.</p>	<p>1.To know that healthy snacks include fresh or dried fruit and vegetables, nuts and seeds.</p> <p>2. To know that particular areas of the world have conditions suited to growing certain crops,</p> <p>3. To know different cooking techniques include baking, boiling, frying, grilling and roasting.</p>



Moorland Primary School – Progression of Knowledge and skills in Design Technology

	functionality to a model.	4.To know some useful tools for cutting and joining.	(& Functional & fancy fabrics)		
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Moorland Primary School – Progression of Knowledge and skills in Design Technology

Year 4	Design	Make	Evaluate	Technical knowledge	Cooking and Nutrition
<p>Skills (Disciplinary knowledge)</p> <p>Topic: Fresh food, Good food</p> <p>Topic: Functional & fancy fabrics</p> <p>Topic: Tomb builders</p>	<p>1. Use annotated sketches and exploded diagrams to test and communicate their ideas. (& Functional & fancy fabrics)</p> <p>2. Create and complete a comparison table to compare two or more products.</p> <p>3. Explore and use a range of mechanisms (levers, axles, cams, gears and pulleys) in models or products.</p>	<p>1. Choose from a range of materials, showing an understanding of their different characteristics (& Functional & fancy fabrics) (& Tomb builders)</p> <p>2. Create detailed decorative patterns on fabric using printing techniques.</p> <p>3. Hand sew a hem or seam using a running stitch.</p> <p>4. Select, name and use tools with adult supervision.</p>	<p>1. Explain how and why a significant designer or inventor shaped the world. (& Functional & fancy fabrics)</p> <p>2. Identify what has worked well and what aspects of their products could be improved, acting on their own suggestions and those of others when making improvements. (& Functional & fancy fabrics) (& Tomb builders)</p> <p>3. Investigate and identify the design features of a familiar product. (& Functional & fancy fabrics)</p>	<p>1. Prototype shell and frame structures, showing awareness of how to strengthen, stiffen and reinforce them.</p>	<p>1. Design a healthy snack or packed lunch and explain why it is healthy.</p> <p>2. Identify and name foods that are produced in different places in the UK and beyond.</p> <p>3. Identify and use a range of cooking techniques to prepare a simple meal or snack.</p>



Moorland Primary School – Progression of Knowledge and skills in Design Technology



Year 3	Design	Make	Evaluate	Technical knowledge	Cooking and Nutrition
<p>Knowledge (Substantive)</p> <p>Topic: Cook well, Eat well</p> <p>Topic: Making it move</p> <p>Topic: Greenhouse</p>	<p>1.To know that key inventions in design and technology have changed the way people live.</p> <p>2.To know that design criteria are the exact goals a project must achieve to be successful. (& Making it move) (& Greenhouse)</p> <p>3.To know that particular products have been designed for specific task (& Greenhouse)</p>	<p>1.To know that materials for a specific task must be selected on the basis of their properties. (& Greenhouse)</p> <p>2.To know that specific tools can be used for cutting and joining. (& Greenhouse)</p> <p>3.To know that shell structures are hollow, 3-D structures with a thin outer covering, such as a box. Frame structures are made from thin, rigid components, such as a tent frame.</p>	<p>1.To know that asking questions that can help others to evaluate their products. (& Making it move) (& Greenhouse)</p> <p>2.To know that work from different designers can be compared by assessing specific criteria, such as their visual impact, fitness for purpose and target market</p>	<p>1.To know that electrical appliances must only be used under the supervision of an adult</p> <p>2.To know that levers consist of a rigid bar that rotates around a fixed point, called a fulcrum</p>	<p>1.To know that the types of food that will grow in a particular area depend on a range of factors, such as the rainfall, climate and soil type.</p> <p>2.To know that the types of food that will grow in a particular area depend on a range of factors, such as the rainfall, climate and soil type</p> <p>3.To know that here are five main food groups that should be eaten regularly as part of a balanced diet:</p>



Moorland Primary School – Progression of Knowledge and skills in Design Technology

					4.To know the preparation techniques for savoury dishes include peeling, chopping, deseeding, slicing, dicing, grating, mixing and skinning.
Year 3	Design	Make	Evaluate	Technical knowledge	Cooking and Nutrition
<p>Skills (Disciplinary knowledge)</p> <p>Topic: Cook well, Eat well</p> <p>Topic: Making it move</p> <p>Topic: Greenhouse</p>	<p>1.Describe how key events in design and technology have shaped the world.</p> <p>2.Develop design criteria to inform a design. (& Making it move) (& Greenhouse)</p> <p>3.Explain how an existing product benefits the user.</p>	<p>1.Plan which materials will be needed for a task and explain why. (& Greenhouse)</p> <p>2. Use tools safely for cutting and joining materials and components. (& Greenhouse)</p> <p>3.Create shell or frame structures</p>	<p>1.Suggest improvements to their products and describe how to implement them, beginning to take the views of others into account. (& Making it move) (& Greenhouse)</p> <p>2.Explain the similarities and difference between</p>	<p>1.Use appliances safely with adult supervision.</p> <p>2.Explore and use a range of mechanisms (levers, sliders, axles, wheels and cams) in models or products.</p>	<p>1.Identify and name foods that are produced in different places.</p> <p>2.Identify and name foods that are produced in different places.</p> <p>3.Identify the main food groups (carbohydrates, protein, dairy, fruits</p>



Moorland Primary School – Progression of Knowledge and skills in Design Technology

	(& Greenhouse)	using diagonal struts to strengthen them.	the work of two designers.		and vegetables, fats and sugars). 4.Prepare and cook a simple savoury dish.
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Moorland Primary School – Progression of Knowledge and skills in Design Technology

Year 2	Design	Make	Evaluate	Technical knowledge	Cooking and Nutrition
<p>Knowledge (Substantive)</p> <p>Topic: Remarkable recipes</p> <p>Topic: Beach Hut</p> <p>Topic: Cut, Stitch & Join</p> <p>Topic: Push & Pull</p>	<p>1.To know that ideas can be communicated in a variety of ways. (& Beach Hut) (& Cut, Stitch & Join)</p>	<p>1.To know that Different tools have characteristics that make them suitable for specific purposes. (& Beach Hut)</p> <p>2.To know that structures can be made stronger, stiffer and more stable by using cardboard rather than paper and triangular shapes rather than squares.</p> <p>3.To know that an embellishment is a decorative detail or feature added to something to make it more attractive.</p>	<p>1.To know that finished products can be compared with design criteria to see how closely they match. (& Beach Hut) (& Cut, Stitch & Join) (& Push & Pull)</p> <p>2.To know that many key individuals have helped to shape the world. (& Cut, Stitch & Join)</p> <p>3.To know that products can be compared by looking at particular characteristics of each.</p>	<p>1.To know that there are hygiene rules to follow include washing hands before handling food, cleaning surfaces, tying long hair back, storing food appropriately and wiping up spills.</p> <p>2.To know the properties of components and materials determine how they can and cannot be used. (& Cut, Stitch & Join) (& Push & Pull)</p> <p>3.To know that a mechanism is a device that takes</p>	<p>1.To know that a healthy diet should include meat or fish, starchy foods (such as potatoes or rice), some dairy foods, a small amount of fat and plenty of fruit and vegetables.</p> <p>2.To know that food comes from two main sources: animals and plants.</p> <p>3. To know that some ingredients need to be prepared before they can be cooked or eaten.</p>



Moorland Primary School – Progression of Knowledge and skills in Design Technology

		4.To know that running stitch is a basic stitch that is used to join fabric	4.To know that products can be improved in different ways. (& Push & Pull)	one type of motion or force and produces a different one.	
Year 2	Design	Make	Evaluate	Technical knowledge	Cooking and Nutrition
Skills (Disciplinary knowledge) Topic: Remarkable recipes Topic: Beach Hut Topic: Cut, Stitch & Join Topic: Push & Pull	1.Generate and communicate their ideas through a range of different method (& Beach Hut (& Cut, Stitch & Join))	1.Select the appropriate tool for a task and explain their choice. (& Beach Hut) 2.Explore how a structure can be made stronger, stiffer and more stable. 3.Add simple decorative embellishments. 4. Use different methods of joining	1.Explain how closely their finished products meet their design criteria and say what they could do better in the future. (& Beach Hut (& Cut, Stitch & Join) (& Push & Pull)) 2.Explain why a designer or inventor is important. (& Cut, Stitch & Join)	1.Work safely and hygienically in construction and cooking activities. 2.Choose appropriate components and materials and suggest ways of manipulating them to achieve the desired effect. (& Cut, Stitch & Join) (& Push & Pull)	1.Describe the types of food needed for a healthy and varied diet and apply the principles to make a simple, healthy meal. 2. Identify the origin of some common foods. 3. Prepare ingredients by peeling, grating, chopping and slicing.



Moorland Primary School – Progression of Knowledge and skills in Design Technology

		<p>fabrics, including glue and running stitch.</p>	<p>3. Compare different or the same products from the same or different brands.</p> <p>4. Explain how an everyday product could be improved. (& Push & Pull)</p>	<p>3. Use a range of mechanisms (levers, sliders, wheels and axles) in models or products.</p>	
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Moorland Primary School – Progression of Knowledge and skills in Design Technology

Year 1	Design	Make	Evaluate	Technical knowledge	Cooking and Nutrition
<p>Knowledge (Substantive)</p> <p>Topic: Shade & Shelter</p> <p>Topic: Taxi</p> <p>Topic: Chop, slice & mash</p>	<p>1.To know that design criteria are the explicit goals that a project must achieve.</p> <p>(& Taxi)</p> <p>(& Chop, slice & mash)</p>	<p>1.To know that rules are made to keep people safe from danger.</p> <p>(& Chop, slice & mash)</p> <p>2.To know that different materials are suitable for different purposes, depending on their specific properties.</p> <p>3.To know that specific tools are used for particular purposes.</p>	<p>1.To know that two products can be compared by looking at a set of criteria and scoring both products against each one.</p> <p>2.To know that strength is a good quality of a piece of work. A weakness is an area that could be improved.</p> <p>(& Taxi)</p> <p>(& Chop, slice & mash)</p> <p>3.To know that two products can be compared by looking at a set of criteria.</p>	<p>1.To know that different materials can be used for different purposes, depending on their properties.</p> <p>2.To know that everyday products are objects that are used routinely at home and school.</p> <p>(& Taxi)</p>	<p>1.To know how to use non-standard measures as a way of measuring that does not involve reading scales.</p> <p>2.To know that fruit and vegetables are an important part of a healthy diet.</p> <p>3.To know that some foods come from animals, such as meat, fish and dairy products</p>



Moorland Primary School – Progression of Knowledge and skills in Design Technology

			4.To know the importance of a product is that it fulfils its goals and performs a useful purpose.		
Year 1	Design	Make	Evaluate	Technical knowledge	Cooking and Nutrition
Skills (Disciplinary knowledge) Topic: Shade & Shelter Topic: Taxi Topic: Chop, slice & mash	1.Create a design to meet simple design criteria. (& Taxi) (& Chop, slice & mash)	1.Follow the rules to keep safe during a practical task. (& Chop, slice & mash) 2. Select and use a range of materials, beginning to explain their choices. 3.Select the appropriate tool for a simple practical task.	1.Describe the similarities and differences between two products. 2.Talk about their own and each other's work, identifying strengths or weaknesses and offering support. (& Taxi) (& Chop, slice & mash) 3.Describe the similarities and	1.Construct simple structures, models or other products using a range of materials. 2.Name and explore a range of everyday products and describe how they are used. (& Taxi)	1.Measure and weigh food items using non-standard measures, such as spoons and cups. 2.Select healthy ingredients for a fruit or vegetable salad. 3.Sort foods into groups by whether they are from an animal or plant source.



Moorland Primary School – Progression of Knowledge and skills in Design Technology

differences between
two products.

4. Describe why a
product is important.