

## Design & Technology Skills Progression

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Subject Knowledge Classes	Aspect	Key Stage 1		Lower Key Stage 2		Upper Key Stage 2	
		End of Y1	End of Y2	End of Y3	End of Y4	End of Y5	End of Y6
<b>Design</b>	<b>Design</b>	Draw a simple picture of an intended design with basic labelling.	Produce detailed, labelled drawings or models of products based on design criteria.	Share ideas through words, labelled sketches and models, recognising that designs have to meet a range of needs, including being fit for purpose.	Collect information from a number of different sources and use this information to inform design ideas in words, labelled sketches, diagrams and models, keeping in mind fitness for purpose and the end user.	Use various sources of information, clarifying/sharing ideas through discussion, labelled sketches, cross-sectional diagrams and models, recognising that ideas have to meet a range of needs.	Develop detailed criteria for designs for products aimed at particular individuals; or groups, sharing ideas through cross-sectional; and exploded diagrams, prototypes and pattern pieces.
<b>Plan</b>	<b>Materials</b>	Select and explain their choice of materials, sometimes with help.	Choose appropriate materials and suggest ways of manipulating them to achieve the desired effect.	Plan which materials will be needed for a task and explain why.	Choose from a range of materials, showing an understanding of their different characteristics.	Select and combine materials with precision.	Choose the best materials for a task, showing an understanding of their working characteristics.
	<b>Work from plans</b>	With help, put ideas into practice.	Think of ideas and plan what to do next, based on their experience of working with materials and components.	Make realistic plans identifying processes, equipment and materials needed.	Make realistic, step by step plans, reflecting on designs as the product develops.	Work from your own detailed plans, modifying them where appropriate.	Check work as it develops and modify their approach in the light of progress.
	<b>Repair and maintenance.</b>	Explain how they would fix simple products.	Cut, measure, form and shape materials to fix or repair something, explaining objectives.	Try an alternative way of fixing something, if their first attempt isn't successful.	Describe how a product could be made better, stronger and more sustainable.	Recycle, repair and mend old clothes/tools and explain why it is a good idea.	Paint, glue, sand and nail to rejuvenate a damaged, faulty or old object.
<b>Make</b>	<b>Tools</b>	Select and explain why they have chosen a particular tool for a task.	Use tools safely for cutting and joining materials and components.	Select the appropriate tools and explain choices.	Analyse the potential of a range of tools and use them with accuracy.	Name and select appropriate tools for a task and use them with precision.	Use more complex tools with increasing accuracy.
	<b>Health and Safety</b>	Explain how to keep safe during a practical task.	Work safely and hygienically, in construction and cooking activities.	Follow health and safety rules for cooking and baking activities.	Follow health and safety rules when working with materials and substances.	Select and name appropriate tools for specific jobs and demonstrate how to use them safely.	Demonstrate how their products take into account the safety of the user.
	<b>Textiles</b>	Cut out shapes from a range of fabrics and papers.	Join fabrics using running stitch, glue, staples, over sewing and tape.	Create a simple pattern for a design.	Use a simple pattern to create a life-sized item of clothing.	Create a 3-D product using a range of materials and sewing techniques.	Combine fabrics to create more useful properties and make a product of high quality, checking for snags and glitches.
	<b>Card making</b>	Fold, tear, roll and cut paper and card.	Create simple hinges and pop-ups using cards.	Cut slots in cards and create nets.	Use more complex pop-ups.	Combine materials with temporary or fixed joints.	Combine materials with moving joints.
	<b>Cutting</b>	Cut accurately and safely with scissors.	Cut wood/dowel using a bench hook and hacksaw.	Measure and mark wood/dowel.	Cut internal shapes.	Cut safely and accurately to a marked line.	Use a craft knife, cutting mat and safety ruler with one to one supervision if needed.
	<b>Joining</b>	Join appropriately using glue or tape.	Attach features to a vehicle (e.g an axle and wheels or a sail and a rudder.) Join appropriately, with glue and/or tape, for different materials and situations.	Join fabrics using a running stitch.	Use a glue gun with close supervision (on to one).	Use a glue gun with close supervision.	Join materials, using the most appropriate method for the materials or purpose.
	<b>Structures</b>	Build simple structures.	Improve structures by making them stronger, stiffer and more stable.	Create a shell or frame structure, using diagonal struts to strengthen.	Prototype and build frame and shell structures, showing awareness of how to strengthen, stiffen and reinforce.	Build a framework using a range of materials (e.g. wood, card and corrugated plastic) to support the mechanism.	
	<b>Mechanisms</b>	Use wheels, axes, levers and sliders.	Create and use wheels and axles, levers and sliders.	Create and use simple gears, pulleys, cams, levers and linkages.	Use pulleys, levers and linkages in their products.	Use cams or gears in their products.	Select the most appropriate mechanical system for a particular purpose.
	<b>Preparing and Cooking Food</b>	Measure and weigh food items using non-standard measures (e.g. spoons and cups).	Cut, peel, grate and chop a range of ingredients to make dishes from other countries.	Combine a variety of ingredients using a range of cooking techniques.	Measure and weigh ingredients appropriately to prepare and cook a range of savoury dishes.	Combine food ingredients appropriately (e.g. kneading, rubbing in and mixing).	Use appropriate tools and equipment, weighing and measuring with scales.
<b>Nutrition</b>	Identify the main food groups, including fruit and vegetables.	Cut, peel, grate and chop a range of ingredients to make dishes from other countries.	Combine a variety of ingredients using a range of cooking techniques.	Measure and weigh ingredients appropriately to prepare and cook a range of savoury dishes.	Combine food ingredients appropriately (e.g. kneading, rubbing in and mixing).	Use appropriate tools and equipment, weighing and measuring with scales.	

	<b>Electricity</b>	Identify and talk about products that use electricity to make them work.	Create working circuits to light a light bulb or work a buzzer.	Build models incorporating circuits with buzzers and bulbs.	Build models incorporating motors.	Build models incorporating switches to turn on and off.	Design products incorporating the most appropriate electrical systems.
<b>Evaluate</b>	<b>Origins of Food</b>	Identify the source for common foods.	Explain where the food they eat comes from (e.g. by referring to countries, plants and animals).	Identify food which comes from the UK and other countries in the world.	Explain some of the processes that food goes through to preserve/make them more appealing.	Explain what times of year particular foods are in season.	Explain how ingredients were grown, reared, caught and processed.
	<b>Existing product evaluation</b>	Describe how an existing product works (e.g. 'the toy moves when I turn the handle')	Investigate a range of existing products and say if they do what they are supposed to do.	Investigate the design feature (including identifying components or ingredients) of familiar existing products.	Explain how an existing product is useful to the user.	Investigate the design features (including identifying components or ingredients) of a familiar existing product in the context of the culture or society in which it was designed or made.	Explain the form and function of familiar existing products.
	<b>Evaluation</b>	Talk about their own and others' work identifying strengths or weaknesses.	Explain how closely finished products meet their design criteria and say what they could do better in the future.	Suggest improvements to products made and describe how to implement them taking the views of others into account.	Identify what has worked well and what could be improved.	Test and evaluate products against a detailed design specification and make adaptations as they develop the product.	Demonstrate modifications made to a product, as a result of ongoing evaluation, by themselves and others.
	<b>History and culture.</b>	Order products or designs chronologically and begin to explain reasons why they are ordered in that way.	Describe why a design, building or designer is important.	Explain the impact of a design or designer or on design history and how this has helped to change the world.	Explain how fashions and fabrics have changed over time and this has affected fashion. Explain how the design of a product over time.	Create a timeline to sequence the development of a design over time and describe how technology has influenced it.	Describe how an individual in the field of design and technology has helped shape the world.



# Tyndale Primary

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