



Progression in Design Technology at Elsecar Holy Trinity CE Primary School



	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
DESIGN							
<i>Developing, planning and communicating ideas</i>							
Statutory guidance (Development matters & NC)		Design purposeful, functional, appealing products for themselves and other users based on design criteria	Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups				
		Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology	Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design				
School Specific		Understand the development of existing products: Explain what they are for, how they work, what materials have been used.	Learn about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products.				
		Understand the target audience of their product.	Understand how well existing products have been designed, made, what materials have been used and the construction technique.				
		Start to generate ideas by drawing on their own and other people's experiences.	Consider the views of others (including intended users) and the ideas of other designers.				
		Start to suggest ideas and explain what they are going to do.	Establish a clear design criteria (specification) for a successful product.				
		Develop their design ideas through discussion, observation, labelled drawing and modelling.	Generate ideas for an item, considering its purpose and the user/s.				
		Make templates and mock ups of their ideas in card and paper or using ICT (if relevant)	Create clear annotated drawings from different views showing specific features.				
		Begin to explain why they chose a certain material.	Produce a plan showing the main stages of the making process.				
		Communicate with others about how they want to construct their product	Create a prototype.				
		Explain how they intend to fix simple materials.	Suggest alternative methods of making, if the first attempts fail.				
			Explain choice of materials and components including aesthetics and function.				
			Identify what tools and equipment they will need.				
						Learn about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products.	
						Use a wealth of research (e.g. books, magazines, interviews, questionnaires, investigations) to inform design criteria.	
						Show consideration to culture and society when designing.	
						Draw up a clear and detailed specification to inform the design (including maths and science where appropriate).	
						Produce a range of initial design ideas and say what the good points and drawbacks are about each before selecting a final design.	
						Create cross sectional, exploded diagrams and pattern pieces.	
						Use CAD (Computer Aided Design).	
						Produce a detailed step-by-step plan for the making process.	
						Create a prototype and use to refine initial plan if necessary	

				<p>Apply a range of finishing techniques to improve the aesthetic and functional qualities of the product.</p> <p>Select appropriate materials, tools and techniques.</p> <p>Understand how much products cost to make and the impact of the products (include environmental).</p>
Vocabulary	Idea shape construct build plan Wood card paper plastic straw	idea, shape, make, construct, purpose, customer, aim, develop, template, use, appearance, transparent, opaque, wood, plastic, absorbent, wheel, wool, decoration, pattern, style, lever, survey	functional, appealing, aesthetic, ergonomic, brief, construction, client, purpose, criteria, usability, dimension, evaluate, innovate, manufacture, material, modification, modify, process, product, prototype, quality, research, safety, specification, suitable, cross-section, consumer, dismantle, enlarged, exploded drawing, malleable, market research, proportion, circuit, friction, force, linear, linkage, pulleys, resistance, questionnaire	
MAKE				
<i>Working with tools, equipment, materials and components to make quality products</i>				
Statutory guidance (Development matters & NC)		<p>Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</p> <p>Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</p>	<p>Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</p> <p>Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities</p>	
School Specific		<p>Explore different tools and use safely, e.g. scissors and a hole punch safely.</p> <p>Measure, mark out and cut different materials with increasing accuracy (wood, paper, card, fabric).</p> <p>Use basic sewing techniques to join (e.g. running stitch).</p> <p>Begin to select appropriate tools and materials.</p> <p>Use hand tools safely (e.g. hand saw).</p> <p>Assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape.</p> <p>Use simple finishing techniques to improve the appearance of their product.</p>	<p>Select and use a wider range of tools and techniques for making their product i.e. construction materials and kits, textiles, food ingredients, mechanical components and electrical components.</p> <p>Work safely and accurately with a range of simple tools and equipment.</p> <p>Explain their choice of tools and equipment in relation to the skills and techniques they will be using.</p> <p>Measure, mark out, score and cut, score with accuracy.</p> <p>Measure, tape or pin, cut and join fabric with some accuracy.</p> <p>Join and combine materials and components accurately in temporary and permanent ways.</p> <p>Use a glue gun with 1:1 supervision.</p>	<p>Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.</p> <p>Select the most appropriate materials, tools and techniques to use for a given task</p> <p>Use a simple pattern to create a life-sized item of clothing.</p> <p>Cut and join precisely to ensure a good-quality finish to the product.</p> <p>Use finishing techniques to strengthen and improve the appearance of their product using a range of equipment including ICT.</p> <p>Use a glue gun with close supervision.</p>

			<p>Sew using a range of different stitches, to weave and knit.</p> <p>Try alternative ways of fixing something if the first attempt is not successful</p> <p>Use finishing techniques to strengthen and improve the appearance of their product using a range of equipment including ICT.</p>	<p>Assemble components to make working models.</p> <p>Pin, sew and stitch materials together to create a product.</p> <p>Demonstrate when make modifications as they go along.</p> <p>Join and combine materials and components accurately in temporary and permanent ways.</p> <p>Use a craft knife, cutting mat and safety ruler with close supervision (one to one)</p>
Vocabulary		equipment, tools, saw, cut, join, finish, construct, material, sew, glue, attach, stable, axle, glue gun, joint, scissors, screwdriver, ruler.	carpentry, timber, grain, screw, nails, glue, hinges, chisel, hammer, bench hook, glass paper, smoothing plane, knot, strengthening, right angle, assemble, adhesive, acrylic, dowel, laminate, coping saw,	
EVALUATE				
<i>Evaluating processors and products</i>				
Statutory guidance (Development matters & NC)		<p>Explore and evaluate a range of existing products, identifying what they like and dislike.</p> <p>Evaluate their own ideas and products against design criteria (specification).</p>	<p>Investigate and analyse a range of existing products, identifying strengths and weaknesses.</p> <p>Evaluate their ideas and products against their own design criteria (specification) and consider the views of others to improve their work.</p> <p>Understand how key events and individuals in design and technology have helped shape the world</p>	
Vocabulary		Explore, evaluate, existing product, likes, strengths, dislikes, weaknesses, design criteria/ specification, review, improve, appearance	Investigate, analyse, existing product, design criteria/ specification, evaluate, illustrate, label, critical, analyse, change, improve, process, appearance, purpose, function	
TECHNICAL KNOWLEDGE				
Statutory guidance (Development matters & NC)		<p>Build structures, exploring how they can be made stronger, stiffer and more stable</p> <p>Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</p>	<p>Apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p> <p>Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</p> <p>Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</p> <p>Apply their understanding of computing to program, monitor and control their products</p>	

School Specific		<p>Explore how structures can be made stronger, stiffer and more stable.</p> <p>Use methods to improve the strength of a product if needed.</p> <p>Explore and use levers and sliders within a product.</p> <p>Cut paper and other materials safely and with some accuracy.</p> <p>Join paper and other materials using a variety of basic methods such as gluing, taping, clipping, tying.</p> <p>Use simple components, such as split pins.</p> <p>Know a simple order of making a structure.</p> <p>Know some simple fixing techniques and when to use them (i.e. masking tape to secure a lollipop stick slider)</p>	<p>Explore how structures can be made stronger, stiffer and more stable.</p> <p>Use methods to improve the strength of a product if needed.</p> <p>Understand how to securely join two pieces of fabric together.</p> <p>Cut paper and other materials safely and with increasing accuracy.</p> <p>Explore and use wheels and axles within a product.</p> <p>Know the difference between fixed and free moving axles.</p> <p>Know simple methods to fix wheels and axles to a product.</p>	<p>Strengthen materials using suitable techniques.</p> <p>Explore how structures can be made stronger, stiffer and more stable.</p> <p>Know how to test a material's strength.</p> <p>Begin to measure, mark out, cut and shape materials/components with some accuracy.</p> <p>Select appropriate materials, fit for purpose.</p> <p>Apply a range of finishing techniques with some accuracy.</p> <p>Understand how to reinforce and strengthen a 3D framework.</p> <p>Understand how to securely join two pieces of fabric together.</p>	<p>Understand that mechanical and electrical systems have an input, process and output.</p> <p>Begin to measure, mark out, cut and shape materials/components with some accuracy.</p> <p>Understand how pneumatic systems create movement.</p> <p>Create and use simple pneumatic systems.</p> <p>Apply a range of finishing techniques with some accuracy.</p>	<p>Create and use simple cams.</p> <p>Incorporate switches to turn on and off circuits within products made.</p> <p>Understand how cams create movement.</p> <p>Consider the aesthetic qualities and functionality of my work when making.</p> <p>Understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling.</p>	<p>Create and use simple gears and pulleys.</p> <p>Know that gears and pulleys can be used to speed up, slow down or change the direction of movement.</p> <p>Consider the aesthetic qualities and functionality of my work when making.</p> <p>Use a range of tools and equipment precisely.</p> <p>Understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling.</p>
	Vocabulary		Levers, sliders, wheels, axles, structures, stronger, stiffer, stable, reinforce, mechanisms	Reinforces, gears, cams, linkages, pulleys, levers, complex, series circuit.			
COOKING & NUTRITION							
Statutory guidance (Development)		Use the basic principles of a healthy and varied diet to prepare dishes	Understand and apply the principles of a healthy and varied diet Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.				

matters & NC)		Understand where food comes from.		Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.	
School Specific	<p>Begin to develop a food vocabulary using taste, smell, texture and feel.</p> <p>Explore familiar food products e.g. fruit and vegetables. Begin to work safely and hygienically.</p>	<p>Understand that all food comes from plants or animals.</p> <p>Develop understanding of where different foods come from including food from different countries.</p> <p>Begin to understand how to name the five food groups.</p> <p>Know how to prepare simple dishes safely and hygienically, without using a heat source.</p> <p>Know how to use techniques such as cutting, peeling and grating.</p> <p>Know how to follow a recipe.</p>	<p>Explore common food sources (e.g. flour from wheat, pork from pig)</p> <p>Sort foods into the five food groups.</p> <p>Recognise the need for a variety of food in a diet.</p> <p>Know how to prepare simple dishes safely and hygienically, without using a heat source.</p> <p>Know how to use techniques such as cutting, peeling and grating.</p> <p>Measure and weigh food items using non-standard measures (e.g. spoons and cups).</p> <p>Know how to follow a recipe.</p>	<p>Know that food is grown, reared and in the UK, Europe and the wider world.</p> <p>Identify foods which come from the UK and other countries in the world.</p> <p>Know how a healthy diet is made up of a variety and balance of different food and drink.</p> <p>Begin to know that to be active and healthy, food and drink are needed to provide energy for the body (and begin to distinguish healthy high energy foods).</p> <p>Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically, including experience of using a heat source.</p> <p>Know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</p> <p>Measure and weigh ingredients using standard measures.</p> <p>Know how to follow a recipe.</p>	<p>Understand that seasons may affect the food available.</p> <p>Understand how food is processed into ingredients that can be eaten or used in cooking.</p> <p>Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically, including experience of using a heat source.</p> <p>Demonstrate increasing confidence in how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</p> <p>Evaluate a meal and consider if they contribute towards a balanced diet.</p> <p>Understand the need for correct storage.</p>
Vocabulary		fruit, vegetable, healthy, portion, look, taste, texture, smell, size, shape, colour, ingredients, techniques, chopping, peeling, grating, measure, weigh, safety, hygiene, non-standard, farmed, caught, grown, standard measures, labelled increments, prepare, cook, recipe, consistency, heat source, sweet, savoury, recipe		accompaniments, calories, energy, savoury, garnish, diet, variety, carbohydrate, protein, dairy, fat, vitamin, mineral, crumbly, crunchy, greasy, creamy, gooey, moist, mushy, slicing, mixing, spreading, kneading, baking, raw, starchy, stodgy, cubing, creaming, melting, boiling, simmering, seasonality, sensory characteristics, zest. Source, grown, reared, caught, processed, organic, vegetarian, vegan, pescatarian, sustainability, allergies, intolerance, free range.	