

Selside Endowed CE School

Design and Technology Assessment/ Vocabulary progression

Key stage 1 N	Ailestone 1				
When design	ing and making, pupils sh	ould be taught to:			
Design	 design purposeful, functional, appealing products for themselves and other users based on design criteria generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology 				
Make			al tasks [for example, cutting, shaping, joining on struction materials, textiles and ingred		
Evaluate	 explore and evaluate a range of exercise evaluate their ideas and products 				
Technical knowledge	. –	ey can be made stronger, stiffer and example, levers, sliders, wheels and a			
Cooking and nutrition	 use the basic principles of a healthy and varied diet to prepare dishes understand where food comes from. 				
Milestone 1	Threshold Concepts:	Basic/	Advancing/	Deep/	
(Y1/2)	Knowledge & Skills (Learning Objectives)	Working towards	Expected	Exceeding	
Skills	Food (throughout year) Cut, peel or grate ingredients safely and hygienically.	With the support of a teacher, ingredients are prepared safely and hygienically	There is a growing awareness of safety and hygiene procedures when preparing food	There is a good understanding of the need to work safely and hygienically when preparing food.	
	Measure or weigh using measuring cups or electronic scales.	With the support of a teacher, weighing and measuring is accurate	There is a growing ability to weigh and measure accurately.	There is a good understanding of how to weigh and measure accurately using a range of scales	
	Assemble or cook ingredients. Materials				
	Cut materials safely using tools provided.	With the support of a teacher, materials are cut safely.	There is a growing ability to cut materials safely.	There is a good level of control of tools so that materials are cut safely	
	Measure and mark out to the nearest centimetre.	When supported by a teacher, maths skills are sometimes used			

		to help measure and mark to the nearest centimetre.	Maths skills are often used to help measure and mark to the nearest centimetre.	There is a good application of maths skills to help measure and mark to the nearest centimetre
	Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling).	During structured activities, a range of cutting and shaping techniques are used	There is a growing use of a range of cutting and shaping techniques.	There is a wide use of a range of cutting and shaping techniques.
	Demonstrate a range of joining techniques (such as gluing, using hinges or combining materials to strengthen)	During structured activities, a range of joining techniques are used	There is a growing use of a range of joining techniques	There is a wide use of a range of joining techniques
	Textiles Shape textiles using templates	With the support of a teacher, textiles are shaped using templates	Templates are beginning to be created and used to shape textiles	Templates are created to a good standard and used to shape textiles effectively
	Join textiles using running stitch. Colour and decorate textiles	With the support of a teacher, textiles are joined with a basic running stitch.	A basic running stitch is used well to join textiles.	A controlled running stitch is used to securely join textiles
	using a number of techniques (such as dyeing, adding sequins or printing).	With the support of a teacher, a number of decoration techniques are experienced.	A growing number of decoration techniques are used.	Effective decoration techniques are chosen and applied to good effect
	Electrical and electronics Diagnose faults in battery- operated devices (such as low battery, water damage or battery terminal damage).	With the support of a teacher, a range of common faults are identified.	A growing range of faults are correctly identified.	A wide range of faults are identified, and possible solutions suggested.
	Construction Use materials to practise drilling, screwing, gluing and nailing materials to make products (such as wheeled vehicles).	With the support of a teacher, materials are combined to make products.	With growing independence, materials are combined to make products.	Good choices of materials and how to combine them are made when making a wide range of products.
	Mechanics Create products using levers and winding mechanisms	With the support of a teacher, products using levers and winding mechanisms are made	With growing independence, and a developing understanding of mechanisms, products using levers and winding mechanisms are made.	With a high level of independence and a good understanding of mechanisms, good-quality products using levers and winding mechanisms are made
Design and Make	Design products that have a clear purpose and an intended user.	When supported by a teacher, designs to meet a purpose are created.	With growing independence, designs that have a clear purpose and intended user are created	With a high level of independence and a good understanding that designs require

	Make products, refining the design as work progresses.	When encouraged by a teacher, designs are improved as the making process develops	the making process	a purpose and user, very good designs are created. High-quality products are made through a process of constant refinement throughout the making process
Inspiration	Explore objects and designs to identify likes and dislikes of the designs.	With structured activities, designs of others are evaluated to identify likes and dislikes.	With growing independence and a growing understanding of design features, likes and dislikes of the designs of others are identified.	With a high level of independence and a good understanding of design features, likes and dislikes are identified, explained and justified with examples
	Suggest improvements to existing designs. Explore how products have been created.	When prompted, basic improvements to existing designs are suggested.	Suitable and appropriate improvements to existing designs are generally identified.	Thoughtful and well-reasoned improvements to existing designs are identified.

General vocab: design, purpose, user, equipment, draw, make, construct, evaluate, strength, products, designer, template, develop, model, safety, build.

Food: hygiene, cook, cooking, baking, prepare, ingredients, amount, baking sheet, basin, chopping board, cleaning cloths, grater, knead, masher, measure, measuring jug, measuring spoons, method, mixing bowl, pastry, cutters, peeler, recipe, saucepans, scales, sieve, weigh, wooden spoon, time, dry, liquid, chop, stir, grate, apron, chop, cut, equipment, fork, knife, mix, spoon

Materials: junk modelling, cut, tearing, folding, curling, gluing, materials, safety, measure, mark, nearest centimetre, cutting skills, shaping techniques, join, joining techniques, rigid, cello tape, glue Stick, masking tape, paper clip, ruler, straws.

Textiles: Templates, shape textiles, pattern, pin, cut, shape, needle, stitch, running stitch, join textiles, ribbon, thread, wool, finish, stable, decoration techniques, materials, tape measure, measure, centimetre, bead, button, fabric, felt, scissors, sew

Electrical and electronics: battery, circuit, wire, bulb, fault.

Construction: materials, join, mark, assemble, products, centimetre, gluing, hinges, saw, hammer, screw, nail, 2-D, 3-D, cut, metal, plastic, wire, wood.

Mechanics: mechanisms, products, levers, winding mechanisms, wheels, axils, levers.

Key stage 2	Milestone 2			
When desig	ning and making, pupils s	hould be taught to:		
Design	 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 discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design 			
Make	_	of tools and equipment to perform practi of materials and components, including c		
Evaluate		existing products against their own design criteria and cons dividuals in design and technology have h		eir work
Technical knowledge	 apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] apply their understanding of computing to program, monitor and control their products. 			
Cooking and nutrition	 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 understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. 			
Milestone	Threshold Concepts:	Basic/	Advancing/	Deep/
2	Knowledge & Skills	Working towards	Expected	Exceeding
(Y3/4)	(Learning Objectives)			
Skills	Food (throughout year) Prepare ingredients hygienically using appropriate utensils. Measure ingredients to the nearest	When reminded, appropriate utensils are chosen to safely and hygienically prepare food.	Appropriate utensils are generally chosen to safely and hygienically prepare food.	Appropriate utensils are chosen to safely and hygienically prepare food, with clear explanations for the choices made.
	gram accurately. Follow a recipe.	With support from a teacher, accurate measurement, to the nearest gram, is experienced.	There is generally accurate measurement to the nearest gram.	There is accurate measurement to the nearest gram using a variety of scales.
	Assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking).			
	<u>Materials</u>			

Cut materials accurately and safely b selecting appropriate tools.	y When reminded, appropriate tools are chosen to safely cut materials	Appropriate tools are generally chosen to safely cut materials.	Appropriate utensils are chosen to safely cut materials, with clear explanations for the choices made.
Measure and mark out to the neares millimetre.	t With support from a teacher, accurate measurement and marking, to the nearest millimetre, is experienced.	There is generally accurate measurement and marking to the nearest millimetre.	There is accurate measurement and marking to the nearest millimetre using a variety of scales.
Apply appropriate cutting and shapin techniques that include cuts within the perimeter of the material (such a slots or cut-outs)	appropriate techniques are used to cut	Appropriate techniques are generally chosen to cut and shape materials.	Appropriate techniques are chosen to cut and shape materials, with clear explanations for the choices made.
Select appropriate joining technique	s. When reminded, appropriate joining techniques are used.	Appropriate joining techniques are generally selected and used well.	Appropriate joining techniques are selected and used to good effect, with reasons for choices clearly explained.
Textiles Understand the need for a seam allowance.	When demonstrated by a teacher, and support provided, appropriate allowances are made when joining fabrics.	Generally, appropriate allowances for joining fabrics are used.	Accurate and well-planned allowances for joining fabrics are used.
Join textiles with appropriate stitching.	When demonstrated by a teacher, appropriate stitching is attempted with some good effects.	Generally, stitching is appropriate to the product and effective.	Confident and carefully chosen stitching, suitable for the product's purpose, is well executed.
Select the most appropriate techniques to decorate textiles.	When reminded, appropriate techniques are used to decorate textiles.	Generally, interesting and appropriate techniques are used to decorate textiles.	Excellent choices of appropriate techniques provide interesting and eye-catching textile decorations.
Electricals and electronics Create series and parallel circuits.	When reminded, knowledge of science is applied to create series and parallel circuits in products	Generally, science knowledge is applied well to create series and parallel circuits in products.	Science knowledge is readily applied to good effect in creating series and parallel circuits in products.
Construction Choose suitable techniques to construct products or to repair items	When reminded by a teacher, suitable	Suitable techniques are generally used to construct or repair items.	Suitable techniques are chosen and justified when constructing or repairing items.
Mechanics Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears).	When reminded, knowledge of science is applied to creating mechanism products.	Generally, knowledge of science is applied to creating mechanism products.	Knowledge of science is readily applied when creating mechanism products.

make, evaluate and improve	Design with purpose by identifying opportunities to design. Make products by working efficiently (such as by carefully selecting materials). Refine work and techniques as work progresses, continually evaluating the product design.	When supported by a teacher, appropriate materials are selected.	Generally, there is a good understanding of opportunities for design. Planning of workflows and careful selection of materials means work is generally carried out efficiently.	Excellent examples of suggestions for design show an in-depth understanding of the need for design. Very efficient workflows and well-reasoned choices of materials make work very efficient.
inspiration from design throughout history	Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs. Improve upon existing designs, giving reasons for choices. Disassemble products to understand how they work.	With support from a teacher, some of the most notable designers' work is examined to provide inspiration for ideas.	A growing knowledge of a range of notable designers is used to provide inspiration for designs.	An in-depth knowledge of some notable designers provides inspiration and ideas for designs.

General vocab: design, purpose, user, equipment, draw, make, construct, evaluate, strength, products, designer, template, develop, model, safety, build, criteria, investigation, selfevaluation, test, improve, modify, mark out, temporary, permanent, sustainable, engineer, accurately, appropriate techniques, repair, refine, disassemble, analyse, combine, criteria, health and safety, parameters, requirements, accurate,

Food: hygiene, cook, cooking, baking, prepare, ingredients, amount, baking sheet, basin, chopping board, cleaning cloths, grater, knead, masher, measure, measuring jug, measuring spoons, method, mixing bowl, pastry, cutters, peeler, recipe, saucepans, scales, sieve, weigh, wooden spoon, time, dry, liquid, chop, stir, grate, apron, chop, cut, equipment, fork, knife, mix, spoon, utensils, gram, kilograms millimetre, temperature, ladle, millilitre, litre, spatula, whisk.

Materials: junk modelling, cut, tearing, folding, curling, gluing, materials, safety, measure, mark, nearest centimetre, cutting skills, shaping techniques, join, joining techniques, rigid, cello tape, glue Stick, masking tape, paper clip, ruler, straws, score, assemble.

Textiles: Templates, shape textiles, pattern, pin, cut, shape, needle, stitch, running stitch, join textiles, ribbon, thread, wool, finish, stable, decoration techniques, materials, tape measure, measure, centimetre, bead, button, fabric, felt, scissors, sew, seam, back stich, binca, bodkin, cotton thread, cross stitch, hook and eye, loom, press stud, seam allowance sewing machine, tacking, thimble.

Electrical and electronics: battery, circuit, wire, bulb, fault, component, technology, parallel circuit, battery holder, bulb holder, buzzer, switches.

Construction: materials, join, mark, assemble, products, centimetre, gluing, hinges, saw, hammer, screw, nail, 2-D, 3-D, cut, metal, plastic, wire, wood, tenon saw, vice, wire strippers, marking out, junior hacksaw, screw driver, stapler, dowel, sand paper, drill, drill bits, file, goggles, hole punch.

Mechanics: mechanisms, products, levers, winding mechanisms, wheels, axils, levers, pulley, gears, motor.

	Milestone 3			
When desig Design	or groupsgenerate, develop, model and comm	ould be taught to: eria to inform the design of innovative, functi unicate their ideas through discussion, annot		
Make	_	tools and equipment to perform practical tas materials and components, including constru		
Evaluate	 investigate and analyse a range of exite evaluate their ideas and products again 	isting products hinst their own design criteria and consider th riduals in design and technology have helped	•	
Technical knowledge	 apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] apply their understanding of computing to program, monitor and control their products. 			
Cooking and nutrition	 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 understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. 			
Milestone	Threshold Concepts:	Basic/	Advancing/	Deep/
3	Knowledge & Skills	Working towards	Expected	Exceeding
(Y5/6)	(Learning Objectives)			
Skills	Food (throughout year) Understand the importance of correct storage and handling of ingredients (using knowledge of micro-organisms).	There is some awareness of the principles and practices of safe food storage and handling.	Science knowledge is applied to the safe storage and handling of ingredients.	A thorough scientific understanding of microorganisms is rigorously applied to the practices of storage and handling of ingredients
	Measure accurately and calculate ratios of ingredients to scale up or down from a recipe.	When reminded, mathematical knowledge is applied to accurately calculate ratios of ingredients.	Mathematical knowledge is generally applied to calculate ratios of ingredients.	Knowledge of mathematics is readily applied to calculate ratios of ingredients.
	Demonstrate a range of baking and cooking techniques	When guided, a range of baking and cooking techniques is demonstrated.	A developing range of baking and cooking techniques is demonstrated.	A good range of baking and cooking techniques is demonstrated.

Create and refine recipes, including ingredients, methods, cooking times and temperatures.	With support from a teacher, a range of recipes are created.	A developing range of interesting recipes is created.	A wide repertoire of recipes with interesting combinations of ingredients is created.
	There are some good examples of precision cutting.	There are many good examples of precision cutting using a growing range of cutting implements.	There are widespread examples of precision cutting using a wide variety of cutting implements.
	When reminded, the qualities of materials are considered when selecting tools.	The properties of materials are generally considered in choosing tools.	An in-depth understanding of the properties of materials is used to carefully select appropriate tools.
	There are some good examples of effective joins.	There is a growing range of examples of effective joining techniques that show control and some precision.	There is a wide range of very effective joining techniques that show a high level of precision and control.
	There are some good examples of art skills being used to provide decoration.	There are many good examples of art skills being applied to good effect to provide visual and tactile decoration.	Well-chosen art skills are used to create eye-catching decoration.
Electricals and electronics Create circuits using electronics kits that	With support, and reminders of science knowledge, a range of circuits is created and used in products.	Science knowledge is generally applied to the design process to create products that employ a range of electronic components.	Science knowledge is readily applied to the design process, creating high- quality products that employ a broad range of electronic components.
Construction		A growing range of practical skills are used effectively to make or repair products.	A wide range of practical skills are put to very effective use to make or repair a wide variety of products.
Mechanics Convert rotary motion to linear using cams.	With support, cams are created.	A range of differently shaped cams are created.	Combinations of differently shaped cams are used to create interesting and useful movement.
	With support, combinations of design components are used in product designs.	There is some interesting experimentation with combinations of design components in product designs.	There are some innovative combinations of design components in product designs.

To design,	Design with the user in mind, motivated	With guidance, products are designed with	Generally, the user experience is used	The experience of the user drives the
make, evaluate	by the service a product will offer (rather than simply for profit).	some reference to the user experience.	as a rationale for design choices.	design process. There are many excellent examples and explanations
and improve	Make products through stages of prototypes, making continual refinements. Ensure products have a high quality finish, using art skills where appropriate. Use prototypes, cross-sectional diagrams and computer aided designs to represent designs.	With support, prototypes are made and later developed. Art skills are generally applied and, along with attention to detail, create a high- quality finish.	Generally improvements are continual throughout the making process, with initial prototypes often changed radically through a number of refinements When reminded, a high-quality finish is achieved by applying art skills.	of how choices improve the user experience. Initial prototypes and alternative designs are thoroughly explored and explained. Refinements are continually made throughout the making process. Impeccable attention to detail and the extremely effective application of art skills create a professional quality finish
To take inspiration from design throughout	Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices.	With support, elements of design from notable designers are incorporated into designs.	Generally, there are some well- reasoned choices for combining elements from a range of designers.	An in-depth knowledge of some designers' work is reflected in some striking designs. The rationale and background to the design ideas are explained thoughtfully.
history	Create innovative designs that improve upon existing products.	There are some good examples of designs that improve upon existing products.	There is a growing range of examples of designs that improve upon existing products.	There are some notable examples of how the design of an existing product has been greatly improved.
	Evaluate the design of products so as to suggest improvement to the user experience.	When reminded, evaluations are carried out throughout and at the end of the design process.	Evaluations are generally ongoing and thorough. They relate to the user experience.	The user experience drives critical self-evaluation and helps to identify current and future improvements.

General vocab: design, purpose, user, equipment, draw, make, construct, evaluate, strength, products, designer, template, develop, model, safety, build, criteria, investigation, selfevaluation, test, improve, modify, mark out, temporary, permanent, sustainable, engineer, accurately, appropriate techniques, repair, refine, disassemble, analyse, combine, criteria, health and safety, parameters, requirements, accurate, prototype, refinement, quality finish, cross-sectional diagrams.

Food: hygiene, cook, cooking, baking, prepare, ingredients, amount, baking sheet, basin, chopping board, cleaning cloths, grater, knead, masher, measure, measuring jug, measuring spoons, method, mixing bowl, pastry, cutters, peeler, recipe, saucepans, scales, sieve, weigh, wooden spoon, time, dry, liquid, chop, stir, grate, apron, chop, cut, equipment, fork, knife, mix, spoon, utensils, gram, kilograms millimetre, temperature, ladle, millilitre, litre, spatula, whisk, microorganisms, ratios.

Materials: junk modelling, cut, tearing, folding, curling, gluing, materials, safety, measure, mark, nearest centimetre, cutting skills, shaping techniques, join, joining techniques, rigid, cello tape, glue Stick, masking tape, paper clip, ruler, straws, score, assemble, precision cutting, properties.

Textiles: Templates, shape textiles, pattern, pin, cut, shape, needle, stitch, running stitch, join textiles, ribbon, thread, wool, finish, stable, decoration techniques, materials, tape measure, measure, centimetre, bead, button, fabric, felt, scissors, sew, seam, back stich, binca, bodkin, cotton thread, cross stitch, hook and eye, loom, press stud, seam allowance sewing machine, tacking, thimble.

Electrical and electronics: battery, circuit, wire, bulb, fault, component, technology, parallel circuit, battery holder, bulb holder, buzzer, switches.

Construction: materials, join, mark, assemble, products, centimetre, gluing, hinges, saw, hammer, screw, nail, 2-D, 3-D, cut, metal, plastic, wire, wood, tenon saw, vice, wire strippers, marking out, junior hacksaw, screw driver, stapler, dowel, sand paper, drill, drill bits, file, goggles, hole punch.

Mechanics: mechanisms, products, levers, winding mechanisms, wheels, axils, levers, pulley, gears, motor, cams.