



Sedbergh Primary School

Design & Technology Subject Progression Grid

Design and Technology - Curriculum Subject Statements			
Core Values	Early Years Foundation Stage	Key Stage 1	Key Stage 2
Connection & Aspiration	We encourage children to represent their own ideas, thoughts and feelings through designing and creating products. We provide a variety of tools and materials for children to use safely allowing them to experiment with design, form and function.	We aim to inspire all children to design purposeful, functional and appealing products for themselves and other audiences. Children are encouraged to communicate their ideas through drawing and talking. Children will have opportunities to prepare healthy and balanced meals and will have a good understanding of where food comes from.	Pupils continue to develop their knowledge, understanding and skills needed to engage in an iterative process. We encourage all children to research and design their product to ensure their products are fit for purpose. Children are given opportunities to evaluate their ideas and consider the views of others to improve their work. Children plan and prepare a variety of savoury dishes using a range of cooking techniques.

Purpose of Study

Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

National Curriculum Subject Aims

The national curriculum for design and technology aims to ensure that all pupils:

- ✓ Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
- ✓ Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- ✓ Critique, evaluate and test their ideas and products and the work of others
- ✓ Understand and apply the principles of nutrition and learn how to cook

National Curriculum Subject Content

Key Stage 1	Key Stage 2
<p>Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].</p> <p>When designing and making, pupils should be taught to:</p>	<p>Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].</p> <p>When designing and making, pupils should be taught to:</p>
<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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
<ul style="list-style-type: none"> Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics 	<ul style="list-style-type: none"> Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately 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
<ul style="list-style-type: none"> Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria 	<ul style="list-style-type: none"> Investigate and analyse a range of existing products Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work Understand how key events and individuals in design and technology have helped shape the world
<ul style="list-style-type: none"> Build structures, exploring how they can be made stronger, stiffer and more stable Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. 	<ul style="list-style-type: none"> 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.
<p>As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.</p>	
<ul style="list-style-type: none"> Use the basic principles of a healthy and varied diet to prepare dishes Understand where food comes from. 	<ul style="list-style-type: none"> 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.

Topic Progression Grid Cycle A

Year Group/Class	Elder EYFS	Years 1 & 2	Year 3 & 4	Year 5 & 6
Autumn 1	Houses for the Three Pigs Scissors/Cutting Junk modelling – choosing materials			
Autumn 2	Christmas Decorations, Christmas Cards Choosing materials/joining different materials		ROMANS MECHANICAL SYSTEMS –Study on LEVERS – FORCES (Science link) Roman catapults/trebuchet	
Spring 1	Chinese Lanterns, paper purses, Penguins Skills: Cutting, Sticking, Joining - split pins/sewing	HEALTHY EATING Designing and making a (fruit) salad		DT: Ration Cookery WWII: Propaganda Posters Blitz Pictures
Spring 2	Making masks Making Animal Puppets Textiles – Design and Sew		TRAVEL AND TOURISM MECHANICAL SYSTEMS - WHEELS AND AXLES Balloon powered car	
Summer 1	Exploring in Continuous Provision	Design and make moving toy		DT Design Task Free standing structures Rainforest Houses
Summer 2	What a Wonderful World! Models from recycled materials	Textiles Sew and join fabrics	VICTORIANS AND LOCAL STUDY TEXTILES (sewing) Felting Making a Purse – pattern making/sewing techniques	DT Design Task Free standing structures Bird tables/Houses

Topic Progression Grid Cycle B

Year Group/Class	Elder EYFS	Years 1 & 2	Year 3 & 4	Year 5 & 6
Autumn 1	Home for a Bear			
Autumn 2	Christmas Decorations, Christmas Cards Choosing materials/joining different materials	Design and make a Christmas bauble	TOPIC: STONE AGE TO IRON AGE STRUCTURES - Bush craft PAPER MODELS – Design shoes.	DT cooking
Spring 1	Skills: Cutting, Sticking, Joining - split pins/sewing	FIRE OF LONDON Design and build a new bakery/home on Pudding lane		
Spring 2	Vegetable Soup		RIVERS STRUCTURES - Bridge designs MECHANICAL SYSTEMS - Waterwheel	
Summer 1	Fruit Salad	HEALTHY EATING Design and make a healthy breakfast smoothie Preparing toast with toppings		DT
Summer 2	Model Vehicles		ANCIENT GREECE POWER OF READING: IRON MAN COOKERY - Greek cookery ELECTRICAL SYSTEMS – linked with Science topic Electricity -model of lighthouse/Iron Man using simple circuit	DT

Curriculum Progression Design and Technology

	EYFS	Years 1 & 2	Years 3 & 4	Years 5 & 6
Developing, planning and communicating ideas	<p>Explore different materials freely, in order to develop their ideas about how to use them and what to make.</p> <p>Talk about their ideas and what they are doing/making</p> <p>Return to and build on their previous learning, refining ideas and developing their ability to represent them.</p> <p>Create collaboratively, sharing ideas, resources and skills.</p>	<p>Draw on their own experience to help generate ideas</p> <p>Suggest ideas and explain what they are going to do</p> <p>Identify a target group for what they intend to design and make</p> <p>Model their ideas in card and paper</p> <p>Develop their design ideas applying findings from their earlier research</p> <p>Generate ideas by drawing on their own and other people's experiences</p> <p>Develop their design ideas through discussion, observation , drawing and modelling</p> <p>Identify a purpose for what they intend to design and make</p> <p>Identify simple design criteria</p> <p>Make simple drawings and label parts</p>	<p>Generate ideas for an item, considering its purpose and the user/s</p> <p>Identify a purpose and establish criteria for a successful product.</p> <p>Plan the order of their work before starting</p> <p>Explore, develop and communicate design proposals by modelling ideas</p> <p>Make drawings with labels when designing</p> <p>Generate ideas, considering the purposes for which they are designing</p> <p>Make labelled drawings from different views showing specific features</p> <p>Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail</p> <p>Evaluate products and identify criteria that can be used for their own designs</p>	<p>Generate ideas through brainstorming and identify a purpose for their product</p> <p>Draw up a specification for their design</p> <p>Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making if the first attempts fail</p> <p>Use results of investigations, information sources, including ICT when developing design ideas</p> <p>Communicate their ideas through detailed labelled drawings</p> <p>Develop a design specification</p> <p>Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways</p> <p>Plan the order of their work, choosing appropriate materials, tools and techniques</p>

Working with tools, equipment, materials and components to make quality products (including food)	EYFS	Years 1 & 2	Years 3 & 4	Years 5 & 6
	<p>Use tools <i>eg scissors</i> safely</p> <p>Begin to join and combine materials to make models.</p> <p>Learn to use glue, masking tape and other tapes for joining materials.</p> <p>Develop their own ideas and then decide which materials to use to express them.</p> <p>Join different materials and explore different textures.</p> <p>Weekly cooking/baking linked to topic: Use basic food handling, hygienic practices and personal hygiene with guidance.</p>	<p>Make their design using appropriate techniques</p> <p>With help measure, mark out, cut and shape a range of materials</p> <p>Use tools <i>eg scissors and a hole punch</i> safely</p> <p>Assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape</p> <p>Select and use appropriate fruit and vegetables, processes and tools</p> <p>Use basic food handling, hygienic practices and personal hygiene</p> <p>Use simple finishing techniques to improve the appearance of their product Begin to select tools and materials; use vocab' to name and describe them</p> <p>Measure, cut and score with some accuracy</p> <p>Use hand tools safely and appropriately</p> <p>Assemble, join and combine materials in order to make a product</p> <p>Cut, shape and join fabric to make a simple garment. Use basic sewing techniques</p> <p>Follow safe procedures for food safety and hygiene</p> <p>Choose and use appropriate finishing techniques</p>	<p>Select tools and techniques for making their product</p> <p>Measure, mark out, cut, score and assemble components with more accuracy</p> <p>Work safely and accurately with a range of simple tools</p> <p>Think about their ideas as they make progress and be willing change things if this helps them improve their work</p> <p>Measure, tape or pin, cut and join fabric with some accuracy</p> <p>Demonstrate hygienic food preparation and storage</p> <p>Use finishing techniques strengthen and improve the appearance of their product using a range of equipment including ICT Select appropriate tools and techniques for making their product</p> <p>Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques</p> <p>Join and combine materials and components accurately in temporary and permanent ways</p> <p>Sew using a range of different stitches, weave and knit Measure, tape or pin, cut and join fabric with some accuracy</p> <p>Use simple graphical communication techniques</p>	<p>Select appropriate materials, tools and techniques</p> <p>Measure and mark out accurately</p> <p>Use skills in using different tools and equipment safely and accurately</p> <p>Weigh and measure accurately (time, dry ingredients, liquids)</p> <p>Apply the rules for basic food hygiene and other safe practices <i>e.g. hazards relating to the use of ovens</i></p> <p>Cut and join with accuracy to ensure a good-quality finish to the product Select appropriate tools, materials, components and techniques</p> <p>Assemble components make working models</p> <p>Use tools safely and accurately</p> <p>Construct products using permanent joining techniques</p> <p>Make modifications as they go along</p> <p>Pin, sew and stitch materials together create a product</p> <p>Achieve a quality product</p>

	EYFS	Years 1 & 2	Years 3 & 4	Years 5 & 6
Evaluating processes and products	<p>Share their creations, explaining the process they have used.</p> <p>Talk about their creations, saying what they like and dislike about them</p>	<p>Evaluate their product by discussing how well it works in relation to the purpose</p> <p>Evaluate their products as they are developed, identifying strengths and possible changes they might make</p> <p>Evaluate their product by asking questions about what they have made and how they have gone about it</p> <p>Evaluate against their design criteria</p> <p>Evaluate their products as they are developed, identifying strengths and possible changes they might make</p> <p>Talk about their ideas, saying what they like and dislike about them</p>	<p>Evaluate their product against original design criteria <i>e.g. how well it meets its intended purpose</i></p> <p>Disassemble and evaluate familiar products</p> <p>Evaluate their work both during and at the end of the assignment</p> <p>Evaluate their products carrying out appropriate tests</p>	<p>Evaluate a product against the original design specification</p> <p>Evaluate it personally and seek evaluation from others</p> <p>Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests</p> <p>Record their evaluations using drawings with labels</p> <p>Evaluate against their original criteria and suggest ways that their product could be improved</p>