

	Designing				
	EYFS		KS1	KS2	
	Nursery	Reception	Year 1 and Year 2	Year 3 and Year 4	Year 5 and Year 6
	Questions for staff to ask children				
Designing	<p>Can you develop and experiment with various materials using your own ideas?</p> <p>Can you create collaboratively by sharing ideas, resources and skills?</p>		<p>Can you generate, develop and communicate an idea in different ways?</p> <p>Can you design purposeful products based on design criteria?</p>	<p>Can you use research and develop design criteria to inform the design of a product that is fit for a purpose, aimed at particular individuals or groups?</p> <p>Can you generate, develop and communicate ideas through discussion, annotated sketches and prototypes?</p>	<p>Can you use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for a purpose, aimed at particular individuals or groups?</p> <p>Can you generate, develop, model and communicate ideas through discussion, diagrams, annotated sketches, pattern pieces, computer-aided design and prototypes?</p>
	Progression of skills: Designing- Developing, planning and communicating ideas				
	Nursery	Reception	Year 1 and Year 2	Year 3 and Year 4	Year 5 and Year 6
Designing	<ul style="list-style-type: none"> Explain what they are making and which materials they are using. Select materials from a limited range that will meet a simple design criteria e.g. shiny. Select and name the tools needed to work the materials e.g. scissors for paper. Explore ideas by rearranging materials. Describe simple models or drawings of ideas and intentions. Discuss their work as it progresses. 		<ul style="list-style-type: none"> Start to generate ideas by drawing on their own and other people's experiences. Begin to develop their design ideas through discussion, observation, drawing and modelling. Identify a purpose for what they intend to design and make. Understand how to identify a target group for what they intend to design and make based on a design criteria. Develop their ideas 	<ul style="list-style-type: none"> Start to generate ideas, considering the purposes for which they are designing- link with Mathematics and Science. Confidently make labelled drawings from different views showing specific features. 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. Identify the strengths and areas for development in their ideas and products. 	<ul style="list-style-type: none"> Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross sectional and exploded diagrams, prototypes, pattern pieces and CAD. Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose. Accurately apply a range of finishing techniques, including those from art and design. Draw up a specification for their design- link with Mathematics and Science. Plan the order of their work,

Leavening Community Primary School
Design and Technology Curriculum Progression of Skills and Vocabulary

		<p>through talk and drawings and label parts.</p> <ul style="list-style-type: none"> • Make templates and mock ups of their ideas in card and paper or using ICT. 	<ul style="list-style-type: none"> • When planning consider the views of others, including intended users, to improve their work. • Learn about inventors, designers, engineers, chefs and manufacturers who have developed ground breaking products. • When planning explain their choice of materials and components according to function and aesthetic. 	<p>choosing appropriate materials, tools and techniques.</p> <ul style="list-style-type: none"> • Suggest alternative methods of making if the first attempts fail. • Identify the strengths and areas for development in their ideas and products. • Know how much products cost to make, how sustainable and innovative they are and the impact products have beyond their intended purpose.
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	Making				
	EYFS		KS1	KS2	
	Nursery	Reception	Year 1 and Year 2	Year 3 and Year 4	Year 5 and Year 6
	Questions for staff to ask children				
Making	<p>Can you use various construction materials, e.g. joining pieces, stacking vertically and horizontally, balancing, making enclosures and creating spaces?</p> <p>Can you use increasing knowledge and understanding of tools and materials to explore your interests and develop your thinking?</p> <p>Can you create representations both imaginary and real-life ideas, events, people and objects to support play?</p>		<p>Can you select from a range of tools and equipment for practical tasks?</p> <p>Can you use a range of tools and equipment safely to perform practical tasks (e.g. cutting, shaping, joining, finishing)?</p> <p>Can you select from and use a range of components according to their characteristics (e.g. construction materials, textiles, ingredients)?</p>	<p>Can you select from and use tools and equipment to perform practical tasks (eg shaping, cutting, joining and finishing) accurately?</p> <p>Can you select from and use a range of materials and components (including construction materials, textiles and ingredients) according to their functional properties?</p>	<p>Can you select from and use a wide range of tools and equipment to perform practical tasks (eg shaping, cutting, joining and finishing) accurately?</p> <p>Can you select from and use a wide range of materials and components (including construction materials, textiles and ingredients) according to their functional properties and aesthetic qualities?</p>
	Progression of skills: Working with tools, equipment, materials and components to make quality products				
	EYFS		KS1	KS2	
	Nursery	Reception	Year 1 and 2	Year 3 and 4	Year 5 and 6
Making	<ul style="list-style-type: none"> Begin to create their design using basic techniques. Start to build structures, joining components together. Look at simple hinges, wheels and axles. Use technical vocabulary when appropriate. Begin to use scissors to cut straight and curved edges and hole pinches to punch holes. Explore using/ holding basic tools such as a saw or hammer. Use adhesives to join material. <p>Fine Motor Skills (Reception)</p> <ul style="list-style-type: none"> Hold a pencil effectively in preparation for fluent writing – using the tripod grip in 		<ul style="list-style-type: none"> Begin to select tools and materials; use correct vocabulary to name and describe them. Build structures, exploring how they can be made stronger, stiffer and more stable. With help measure, cut and score with some accuracy. Explore using tools e.g. scissors and a hole-punch safely. Learn to use hand 	<ul style="list-style-type: none"> Select a wider range of tools and techniques for making their product safely. Know how to measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques. Start to join and combine materials and components accurately in temporary and permanent ways. Know how mechanical systems such as cams or 	<ul style="list-style-type: none"> Confidently select appropriate tools, materials, components and techniques and use them. Use tools safely and accurately. Assemble components to make working models. Aim to make and to achieve a quality product. With confidence pin, sew and stitch materials together to create a product. Demonstrate when make modifications as they go along.

Leavening Community Primary School
Design and Technology Curriculum Progression of Skills and Vocabulary

	<p>almost all cases.</p> <ul style="list-style-type: none"> • Use a range of small tools, including scissors, paint brushes and cutlery. 	<p>tools safely and appropriately.</p> <ul style="list-style-type: none"> • Start to assemble, join and combine materials in order to make a product. • Demonstrate how to cut, shape and join fabric to make a simple product. Use basic sewing techniques. • Start to choose and use appropriate finishing techniques based on own ideas. 	<p>pulleys or gears create movement.</p> <ul style="list-style-type: none"> • Understand how more complex electrical circuits and components can be used to create functional products. • Continue to learn how to program a computer to monitor changes in the environment and control their products. • Understand how to reinforce and strengthen a 3D framework. • Sew using a range of different stitches, to weave and knit. • Demonstrate how to measure, tape or pin, cut and join fabric with some accuracy. • Begin to use finishing techniques to strengthen and improve the appearance of their product using a range of equipment including ICT. 	<ul style="list-style-type: none"> • Construct products using permanent joining techniques. • Understand how mechanical systems such as cams or pulleys or gears create movement. • Know how more complex electrical circuits and components can be used to create functional products and how to program a computer to monitor changes in the environment and control their products. • Know how to reinforce and strengthen a 3D framework. • Understand that mechanical and electrical systems have an input, process and output. • Use finishing techniques to strengthen and improve the appearance of their product using a range of equipment including ICT.
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Leavening Community Primary School
Design and Technology Curriculum Progression of Skills and Vocabulary

	Evaluating				
	EYFS		KS1	KS2	
	Nursery	Reception	Year 1 and Year 2	Year 3 and Year 4	Year 5 and 6
	Questions for staff to ask children				
Evaluating	<p>Do you notice what other children and adults do, copy what you see, adding variations and then doing it spontaneously?</p> <p>Can you express and communicate working theories, feelings and understandings?</p> <p>Can you respond imaginatively to art works and objects?</p> <p>Can you return to and build on previous learning, refining ideas and developing your ability to represent them?</p> <p>Can you discuss problems and how you might solve them?</p>		<p>Can you explore and evaluate a range of existing products?</p> <p>Can you evaluate my product against design criteria?</p>	<p>Can you analyse a range of existing products?</p> <p>Can you evaluate your ideas and products against design criteria (including your own criteria)?</p> <p>Can you begin understand how key events and individuals in design and technology have helped shape the world?</p>	<p>Can you investigate and analyse a range of existing products?</p> <p>Can you evaluate your ideas and products against design criteria (including your own criteria) and consider the views of others to improve your work?</p> <p>Can you begin understand how key events and individuals in design and technology have helped shape the world?</p>
	Progression of skills: Evaluating processes and products				
	EYFS		KS1	KS2	
	Nursery	Reception	Year 1 and Year 2	Year 3 and Year 4	Year 5 and Year 6
Evaluating	<ul style="list-style-type: none"> Say what they like and do not like about items they have made and attempt to say why. Begin to talk about their designs as they develop and identify good and bad points. Start to talk about changes made during the making process. Discuss how closely their finished products meet their design criteria. Look at similarities and differences between existing objects / materials / tools. Show an interest in technological toys. Describe textures. 		<ul style="list-style-type: none"> Evaluate their work against their design criteria. Look at a range of existing products explain what they like and dislike about products and why. Start to evaluate their products as they are developed, identifying strengths and possible changes they might make. With confidence talk about their ideas, 	<ul style="list-style-type: none"> Evaluate their products carrying out appropriate tests. Start to their work both during and at the end of the assignment. Be able to disassemble and evaluate familiar products and consider the views of others to improve them. Evaluate the key designs of individuals in design and technology has helped shape the world. 	<ul style="list-style-type: none"> Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests. Evaluate their work both during and at the end of the assignment. Record their evaluations using drawings with labels. Evaluate against their original criteria and suggest ways that their product could be improved. Evaluate the key designs of individuals in design and technology has helped shape the world.

Leavening Community Primary School
Design and Technology Curriculum Progression of Skills and Vocabulary

		saying what they like and dislike about them.		
	Technical Knowledge			
	Nursery	Reception	Year 1 and Year 2	Year 3 and Year 4
	Questions for staff to ask children			
Technical Knowledge	<p>Can you use different techniques for joining materials?</p> <p>Can you use tools independently, with care and precision?</p>	<p>Can you explore how a structure can be made stronger, stiffer and more stable?</p> <p>Can you explore and use mechanisms (e.g. levers, sliders, wheels and axles) in your products?</p>	<p>Can you strengthen, stiffen and reinforce structures?</p> <p>Can you use mechanical systems in your products (e.g. gears, pulleys, levers and linkages) effectively?</p> <p>Can you use electrical systems in your products (series circuits with switches, bulbs, buzzers and motors) effectively?</p> <p>Can you apply your computing knowledge to program and control your product?</p>	<p>Can you strengthen, stiffen and reinforce more complex structures?</p> <p>Can you understand and effectively use mechanical systems in your products (e.g. gears, pulleys, levers and linkages)?</p> <p>Can you understand and use electrical systems in your products (series circuits with switches, bulbs, buzzers and motors) effectively?</p> <p>Can you apply your computing knowledge to program, monitor and control your product effectively?</p>

Leavening Community Primary School
Design and Technology Curriculum Progression of Skills and Vocabulary

	Materials/Structures				
	EYFS		KS1	KS2	
	Nursery	Reception	Year 1 and Year 2	Year 3 and Year 4	Year 5 and 6
Materials/ Structures		<ul style="list-style-type: none"> • Use tools for a purpose. • Use tools to explore and develop their thinking around their interests. • Choose particular movements, instruments/ sounds, colours and materials for their own imaginative purposes. • Begin to use combinations of art forms. • Create collaboratively, sharing ideas, resources and skills. <p>Fine Motor Skills</p> <ul style="list-style-type: none"> • Hold a pencil effectively in preparation for fluent writing – using the tripod grip in almost all cases. • Use a range of small tools, including scissors, paint brushes and cutlery. 	<ul style="list-style-type: none"> • Measure materials. • Describe some different characteristics of materials. • Join materials in different ways. • Use joining, rolling or folding to make it stronger. • Use own ideas to try to make product stronger. 	<ul style="list-style-type: none"> • Measure carefully to avoid mistakes. • Attempt to make product strong. • Continue working on product even if original didn't work. • Make a strong, stiff structure. 	<ul style="list-style-type: none"> • Select materials carefully, considering intended use of the product, the aesthetics and functionality. • Explain how product meets design criteria. • Measure accurately enough to ensure precision. • Ensure product is strong and fit for purpose. • Reinforce and strengthen a 3D frame.
Progression of Skills: Mechanisms					

Leavening Community Primary School
Design and Technology Curriculum Progression of Skills and Vocabulary

	EYFS		KS1	KS2	
	Nursery	Reception	Year 1 and Year 2	Year 3 and Year 4	Year 5 and 6
Mechanisms			<ul style="list-style-type: none"> • Use levers or slides. • Begin to understand how to use wheels and axles. 	<ul style="list-style-type: none"> • Select most appropriate tools / techniques. • Explain alterations to product after checking it. • Grow in confidence about trying new / different ideas. • Use levers and linkages to create movement. • Use pneumatics to create movement 	<ul style="list-style-type: none"> • Refine product after testing, considering aesthetics, functionality and purpose. • Incorporate hydraulics and pneumatics. • Be confident to try new / different ideas. • Use cams, pulleys and gears to create movement.
Progression of Skills: Textiles					
	EYFS		KS1	KS2	
	Nursery	Reception	Year 1 and Year 2	Year 3 and Year 4	Year 5 and 6
Textiles		<ul style="list-style-type: none"> • Use tools for a purpose. • Use tools to explore and develop their thinking around their interests. • Choose particular movements, instruments/ sounds, colours and materials for their own imaginative purposes. • Begin to use combinations of art forms. • Create collaboratively, sharing ideas, resources and skills. 	<ul style="list-style-type: none"> • Measure textiles. • Join textiles together to make a product, and explain how I did it. • Carefully cut textiles to produce accurate pieces. • Explain choices of textile. • Understand that a 3D textile structure can be made from two identical fabric shapes. 	<ul style="list-style-type: none"> • Think about user when choosing textiles. • Think about how to make product strong. • Begin to devise a template. • Explain how to join things in a different way. • Understand that a simple fabric shape can be used to make a 3D textiles project. 	<ul style="list-style-type: none"> • Think about user's wants/needs and aesthetics when choosing textiles. • Make product attractive and strong. • Make a prototype. • Use a range of joining techniques. • Think about how product might be sold. • Think carefully about what would improve product. • Understand that a single 3D textiles project can be made from a combination of fabric shapes.

Cooking and Nutrition					
	EYFS		KS1	KS2	
	Nursery	Reception	Year 1 and Year 2	Year 3 and Year 4	Year 5 and 6
	Questions for staff to ask children when teaching				
Cooking and Nutrition	<p>Can you look closely at similarities, differences, patterns and changes?</p> <p>Do you know and can you talk about how to be healthy?</p> <p>Can you make healthy choices?</p>		<p>Can you understand where food comes from?</p> <p>Can you prepare a healthy dish, and describe the ingredients you are using?</p>	<p>Can you understand the principles of a healthy and varied diet?</p> <p>Do I know how to be safe and hygienic when using food?</p> <p>Can you prepare and cook savoury dishes?</p> <p>Can you understand seasonality and know where a variety of ingredients are grown, reared, caught and processed?</p>	<p>Do you understand and can you apply the principles of a healthy and varied diet?</p> <p>Can you explain how products should be stored and used safely and hygienically, giving reasons?</p> <p>Can you understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed?</p> <p>Can you prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques?</p>
	Progression of skills: Working with tools, equipment, materials and components to make/cook quality products				
	EYFS		KS1	KS2	
	Nursery	Reception	Year 1 and 2	Year 3 and 4	Year 5 and 6
Cooking and Nutrition	<ul style="list-style-type: none"> Begin to develop a food vocabulary using senses: taste, smell, texture and feel. Begin to understand some food preparation tools, techniques and processes. Measure and weigh food items, non-statutory measures e.g. spoons, cups. Practise stirring, mixing, pouring, blending. Discuss how to make an activity safe and hygienic. Begin to understand that eating well contributes to good health. Explore familiar food products e.g. fruit and vegetables. Stir, spread, knead and shape a range of 		<ul style="list-style-type: none"> Describe properties of ingredients and importance of varied diet. Say where food comes from (animal, underground etc.) Understand that all food comes from plants or animals. Know that food has to be farmed, grown elsewhere (e.g. home) or caught. Understand how to name and sort foods 	<ul style="list-style-type: none"> Think about presenting product in interesting/ attractive ways. Understand ingredients can be fresh, pre-cooked or processed. Understand that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world. Understand how to prepare and cook a 	<ul style="list-style-type: none"> Understand a recipe can be adapted by adding / substituting ingredients. Adapt recipes to change appearance, taste, texture or aroma. Prepare and cook a variety of savoury dishes safely and hygienically including, where appropriate, the use of heat source. Know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as

Leavening Community Primary School
Design and Technology Curriculum Progression of Skills and Vocabulary

	<p>food and ingredients.</p> <ul style="list-style-type: none"> Start to think about and understand the need for a variety of foods in a diet. 		<p>into the five groups in 'The Eat well plate'.</p> <ul style="list-style-type: none"> Know that everyone should eat at least five portions of fruit and vegetables every day. Demonstrate how to prepare simple dishes safely and hygienically, including without using a heat source. Demonstrate how to use techniques such as cutting, peeling and grating with increasing confidence. 	<p>variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.</p> <ul style="list-style-type: none"> Know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. Know that a healthy diet is made up from a variety and balance of different food and drink, as depicted in 'The Eat well plate'. Know that to be active and healthy, food and drink are needed to provide energy for the body. 	<p>fish) in the UK, Europe and the wider world.</p> <ul style="list-style-type: none"> Understand that seasons may affect the food available. Understand how food is processed into ingredients that can be eaten or used in cooking. Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source. Understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. Know different food and drink contain different substances – nutrients, water and fibre – that are needed for health.
	Progression of skills: Electrical Systems				
	EYFS		KS1	KS2	
	Nursery	Reception	Year 1 and 2	Year 3 and 4	Year 5 and 6
Electrical Systems				<ul style="list-style-type: none"> Use number of components in circuit. Program a computer to control product. 	<ul style="list-style-type: none"> Use different types of circuit in product. Think of ways in which adding a circuit would improve product. Program a computer to monitor changes in environment and control product.

Progression of Vocabulary Words					
Progression of Vocabulary words	Textiles				
	EYFS		KS1	KS2	
	Nursery	Reception	Year 1 and Year 2	Year 3 and Year 4	Year 5 and Year 6
	Join, sew, stick, pattern, needle, thread, fabric		Mark out, decorate, running stitch, back stitch, template, quality, suitable, features, dye, design, fray, mock-up, seam, embroidery	Fastening, compartment, zip, finishing technique, function, prototype, felted, woven, knitted, bonded, tie dye, Aesthetics, seam allowance, pinning, blanket stitch, over stitch, straight stitch, cross stitch	Specification, tacking, working drawing, clasp, pinking shears, design criteria, hem, reinforce, Applique, annotate, evaluate, innovation, functionality, renewable, authentic, chain stitch, stem stitch, satin stitch
	Electrical Systems				
	EYFS		KS1	KS2	
	Nursery	Reception	Year 1 and Year 2	Year 3 and Year 4	Year 5 and Year 6
			Switch, battery holder, crocodile clip	User, fault, toggle switch, insulator, conductor, battery holder, crocodile clip Series circuit, connection, push-to-make switch, push-to-break switch, innovative, appealing, control box, input device, output device, system	Parallel circuit, light emitting diode, monitor, flowchart, design specification, reed switch, tilt switch, Light dependent resistor, interface control, micro switch, latching switch
	Mechanisms				
	EYFS		KS1	KS2	
	Nursery	Reception	Year 1 and Year 2	Year 3 and Year 4	Year 5 and Year 6
	Car, wheel, pull, push, design, make, cut, join, split pin, masking tape		Axle, fixed, free, hacksaw, vice, dowel, body, cab, shaping, loose pivot, fixed pivot, system, input, process, mechanism, lever, slider, slot, pivot, guide/bridge, fastener, straight, work, design, evaluate, purpose, components, fixing, attaching, tubing, syringe, plunger, paper fastener, pneumatic system	Loose pivot, fixed pivot, system, input, process, output, linear, rotary, reciprocating, innovative, appealing, linkage, oscillating components, fixing, attaching, tubing, syringe, plunger, split pin, paper fastener pneumatic system, input movement, process, output movement, control, compression, pressure, inflate, deflate, pump, seal, air-tight, linear, rotary, oscillating, reciprocating	Pulley, gear, driver, follower, rotation, motor, belt, spindle, motor, circuit, switch, ratio, transmit, annotated drawings, exploded diagrams, functionality, cam, snail cam, off-centre cam, peg cam, pear shaped cam, follower, axle, shaft, crank, handle, housing, framework rotation, rotary motion, oscillating motion, reciprocating motion, annotated sketches, exploded diagrams, mechanical system, input movement, process, output movement

Materials/ Structures					
EYFS		KS1	KS2		
Nursery	Reception	Year 1 and Year 2	Year 3 and Year 4	Year 5 and Year 6	
Cut, fold, join		Fix, weak, strong, shell, structure, net, marking out, material, joining, three dimensional (3D) shape, stiff, base, underneath, thicker, thinner, corner, point, straight, curved, shell structure, prism, vertex rectangle, cube, cuboid, cylinder	Edge, face, length, width, breadth, capacity marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating	Reinforce, triangulation, stability, temporary, permanent, prototype, innovation, functional, design brief	
Cooking and Nutrition					
EYFS		KS1	KS2		
Nursery	Reception	Year 1 and Year 2	Year 3 and Year 4	Year 5 and Year 6	
Preparing Fruit & Vegetables: Cut, taste, fruit, vegetable, juicy, squeeze, crunchy, sticky, smooth, sharp, crisp, sour, sweet, hard, soft, hot, spicy, skin, seed, pip, healthy		Healthy & Varied Diet: Flesh, core, slicing, peeling, choosing, planning, tasting, arranging, name of products, names of equipment, utensils, techniques and ingredients, texture, appearance, healthy diet	Healthy & Varied Diet: Preference, greasy, moist, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested	Celebrating Culture & Seasonality: Ingredients, yeast, dough, wholemeal, unleavened, baking soda, spice, herbs, carbohydrate, sugar, fat, protein, vitamins, nutrients, gluten, allergy, intolerance, savoury, seasonality, pour, mix, kneed, whisk, beat, combine, fold, rubbing in	