



Design and Technology Progression Map

Expressive arts and design in the Foundation Stage (Highlighted statements relate to Design and Technology)		
Developmental Bands	Exploring and Using Media and Materials	Being Imaginative
22-36 Months	<ul style="list-style-type: none"> -Joins in singing favourite songs -Creates sounds by banging, shaking, tapping or blowing -Shows an interest in the way musical instruments sound -Experiments with blocks, colours and marks 	<ul style="list-style-type: none"> -Beginning to use representation to communicate, e.g. drawing a line and saying 'That's me' -Beginning to make-believe by pretending
30-50 Months	<ul style="list-style-type: none"> -Enjoys joining in with dancing and ring games -Sings a few familiar songs -Beginning to move rhythmically -Imitates movement in response to music -Taps out simple repeated rhythms -Explores and learns how sounds can be changed -Explores colour and how colours can be changed -Understands that they can use lines to enclose a space, and then begin to use these shapes to represent objects -Beginning to be interested in and describe the texture of things -Uses various construction materials -Beginning to construct, stacking blocks vertically and horizontally, making enclosures and creating spaces -Joins construction pieces together to build and balance -Realises tools can be used for a purpose 	<ul style="list-style-type: none"> -Developing preferences for forms of expression -Uses movement to express feelings -Creates movement in response to music -Sings to self and makes up simple songs -Makes up rhythms -Notices what adults do, imitating what is observed and then doing it spontaneously when the adult is not there -Engages in imaginative role-play based on own first-hand experiences -Builds stories around toys, e.g. farm animals needing rescue from an armchair 'cliff' -Uses available resources to create props to support roleplay. -Captures experiences and responses with a range of media, such as music, dance and paint and other materials or words
40-60 Months+	<ul style="list-style-type: none"> -Begins to build a repertoire of songs and dances -Explores the different sounds of instruments -Explores what happens when they mix colours -Experiments to create different textures -Understands that different media can be combined to create new effects -Manipulates materials to achieve a planned effect -Constructs with a purpose in mind, using a variety of resources -Uses simple tools and techniques competently and appropriately -Selects appropriate resources and adapts work where necessary -Selects tools and techniques needed to shape, assemble and join materials they are using 	<ul style="list-style-type: none"> -Creates simple representations of events, people and objects -Initiates new combinations of movement and gesture in order to express and respond to feelings, ideas and experiences -Chooses particular colours to use for a purpose -Introduces a storyline or narrative into their play -Plays alongside other children who are engaged in the same theme -Plays cooperatively as part of a group to develop and act out a narrative
Early Learning Goal	Children sing songs, make music and dance, and experiment with ways of changing them. They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories.

National Curriculum	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Design</p>	<p>Generate initial ideas and simple design criteria through investigation, talking and using own experiences.</p> <p>Develop and communicate ideas through drawings and mock-ups Design appealing products for a particular user based on simple design criteria.</p> <p>Communicate these ideas through talk and drawings.</p>	<p>Generate ideas based on simple design criteria and their own experiences, investigations and explaining what they could make.</p> <p>Design a functional and appealing product for a chosen user and purpose based on simple design criteria.</p> <p>Generate, develop, model and communicate their ideas as appropriate through talking, drawing, templates, mock-ups and information and communication technology.</p> <p>Communicate these ideas through talk and drawings.</p>	<p>Generate and clarify ideas through discussion with peers and adults to develop design criteria for an appealing, functional product fit for purpose and specific user/s.</p> <p>Use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas.</p> <p>Produce annotated sketches, prototypes, final product sketches and pattern pieces.</p>	<p>Gather information about needs and wants to generate and clarify a broader range of ideas through discussion with peers and adults to develop design criteria for an appealing, functional product fit for a particular user and purpose.</p> <p>Use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas.</p> <p>Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross-sectional and exploded diagrams.</p>	<p>Explore a range of initial ideas, and make design decisions to develop a design brief and criteria for a design specification of a final product linked to user and purpose and take account of constraints including time, resources and cost.</p> <p>Use research to develop a design specification for a functional product that responds automatically to changes in the environment.</p> <p>Generate innovative ideas through research and discussion into user needs and existing products, using surveys, interviews, questionnaires and web-based resources.</p> <p>Develop a simple design specification to guide the development of their ideas and products, taking account of constraints including time, resources and cost.</p> <p>Communicate ideas through annotated</p>	<p>Generate innovative ideas by carrying out research using surveys, interviews, questionnaires and web-based resources to develop a design brief and criteria for a design specification.</p> <p>Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification.</p> <p>Develop, model and communicate ideas through talking, annotated drawings, exploded drawings and drawings from different views, templates, mock-ups and prototypes and, where appropriate, computer-aided design.</p>

					sketches, pictorial representations and information and communication technology as appropriate	
Make	<p>Plan by suggesting what to do next.</p> <p>Select from and use a range of tools and equipment to perform practical tasks such as cutting and joining to allow movement and finishing.</p> <p>Select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics and explain their choices.</p> <p>Use simple finishing techniques suitable for the product they are creating.</p> <p>Use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely.</p> <p>Select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product.</p>	<p>Plan by suggesting what to do next.</p> <p>Select and use tools, skills and techniques, explaining their choices.</p> <p>Select new and reclaimed materials and construction kits to build their structures.</p> <p>Use simple finishing techniques suitable for the structure they are creating.</p> <p>Select from and use a range of tools and equipment to perform practical tasks</p> <p>Select from and use textiles according to their characteristics.</p> <p>Use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely.</p> <p>Select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product.</p>	<p>Plan the main stages of a recipe, listing ingredients, utensils and equipment.</p> <p>Select and use appropriate utensils and equipment to prepare and combine ingredients.</p> <p>Select from a range of ingredients to make appropriate food products, thinking about sensory characteristics.</p> <p>Select and use a range of appropriate tools with some accuracy e.g. cutting, joining and finishing.</p> <p>Select fabrics and fastenings according to their functional characteristics e.g. strength, and aesthetic qualities e.g. pattern.</p> <p>Order the main stages of making.</p> <p>Select from and use appropriate tools with some accuracy to cut, shape and join paper and card.</p> <p>Select from and use finishing techniques</p>	<p>Plan the main stages of a recipe, listing ingredients, utensils and equipment.</p> <p>Select and use appropriate utensils and equipment to prepare and combine ingredients.</p> <p>Select from a range of ingredients to make appropriate food products, thinking about sensory characteristics.</p> <p>Order the main stages of making.</p> <p>Select from and use tools and equipment to cut, shape, join and finish with some accuracy.</p> <p>Select from and use materials and components, including construction materials and electrical components according to their functional properties and aesthetic qualities.</p> <p>Order the main stages of making.</p> <p>Select and use appropriate tools to measure, mark out, cut,</p>	<p>Write a step-by-step recipe, including a list of ingredients, equipment and utensils.</p> <p>Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components.</p> <p>Select and use appropriate utensils and equipment accurately to measure and combine appropriate ingredients.</p> <p>Competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks.</p> <p>Use finishing and decorative techniques suitable for the product they are designing and making.</p> <p>Competently select and accurately assemble materials, and securely connect electrical components to</p>	<p>Write a step-by-step recipe, including detailed lists of ingredients, equipment, utensils and fabric relevant to their tasks.</p> <p>Allocate tasks within a team as appropriate</p> <p>Select and use appropriate utensils and equipment to make products that are accurately assembled and well finished.</p> <p>Accurately to measure and combine appropriate ingredients.</p> <p>Make, decorate and present the food product appropriately for the intended user and purpose.</p> <p>Work within the constraints of time, resources and cost.</p>

			<p>suitable for the product they are creating.</p>	<p>score, shape and assemble with some accuracy.</p> <p>Explain their choice of materials according to functional properties and aesthetic qualities.</p> <p>Use finishing techniques suitable for the product they are creating.</p>	<p>produce a reliable, functional product.</p> <p>Create and modify a computer control program to enable an electrical product to work automatically in response to changes in the environment.</p>	
<p>Evaluate</p>	<p>Explore and evaluate a range of everyday products</p> <p>Evaluate their ideas throughout and their products against original criteria.</p> <p>Evaluate their product by discussing how well it works in relation to the purpose and the user and whether it meets design criteria.</p> <p>Taste and evaluate a range of fruit and vegetables to determine the intended user's preferences.</p>	<p>Explore a range of existing products in the school and local environment relevant to the project undertaken</p> <p>Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria.</p> <p>Taste and evaluate a range of fruit and vegetables to determine the intended user's preferences.</p>	<p>Carry out sensory evaluations and investigate and analyse a range of ingredients and products relevant to the product.</p> <p>Record the evaluations using e.g. tables and simple graphs.</p> <p>Understand how a key event/individual has influenced the development of the chosen product and/or fabric.</p> <p>Test their product against the original design criteria and with the intended user.</p> <p>Evaluate the ongoing work and the final product with reference to the design criteria and the views of others.</p> <p>Take into account others' views.</p>	<p>Carry out sensory evaluations and investigate and analyse a range of ingredients and products relevant to the product, including the materials, components and techniques that have been used.</p> <p>Record the evaluations using e.g. tables and graphs.</p> <p>Evaluate the ongoing work and the final product with reference to the design criteria and the views of others.</p> <p>Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work.</p> <p>Test and evaluate their own products against design criteria and the intended user and purpose</p>	<p>Understand how key chefs have influenced eating habits to promote varied and healthy diets.</p> <p>Research key events and investigate famous inventors</p> <p>Carry out sensory evaluations and investigate and analyse a range of ingredients and products relevant to the product, including the materials, components and techniques that have been used.</p> <p>Record the evaluations using e.g. tables and graphs.</p> <p>Critically evaluate the final product with reference back to the design brief and design specification, taking into account the views of others</p>	<p>Investigate, analyse and test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.</p> <p>Carry out sensory evaluations and investigate and analyse a range of ingredients and products relevant to the product, including the materials, components and techniques that have been used.</p> <p>Record the evaluations using e.g. tables and graphs.</p> <p>Understand how key chefs have influenced eating habits to promote varied and healthy diets.</p> <p>Investigate famous manufacturing and engineering companies relevant to the project.</p>

					<p>when identifying strengths and areas for improvement.</p> <p>Continually evaluate and modify the working features of the product to match the initial design specification.</p> <p>Test the system to demonstrate its effectiveness for the intended user and purpose.</p>	<p>Evaluate the final product with reference back to the design brief and design specification, taking into account the views of others when identifying improvements.</p> <p>Compare the final product to the original design specification.</p> <p>Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.</p> <p>Consider the views of others to improve their work.</p>
<p>Technical Knowledge and understanding</p>	<p>Explore and use different mechanisms</p> <p>Know and use technical and sensory vocabulary relevant to the project.</p> <p>Understand that different mechanisms produce different types of movement.</p> <p>Understand where a range of fruit and vegetables come from e.g. farmed or grown at home.</p> <p>Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit</p>	<p>Know how to make freestanding structures stronger, stiffer and more stable.</p> <p>Know and use technical and sensory vocabulary relevant to the project.</p> <p>Understand how simple 3-D textile products are made, using a template to create two identical shapes.</p> <p>Understand how to join fabrics using different techniques</p>	<p>Know how to use appropriate equipment and utensils to prepare and combine food.</p> <p>Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught.</p> <p>Know and use relevant technical and sensory vocabulary appropriately.</p> <p>Know how to strengthen, stiffen and</p>	<p>Know how to use appropriate equipment and utensils to prepare and combine food.</p> <p>Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught.</p> <p>Know and use relevant technical and sensory vocabulary appropriately.</p> <p>Understand and use electrical systems in their products, such as series circuits</p>	<p>Know how to use utensils and equipment including heat sources to prepare and cook food.</p> <p>Understand about seasonality in relation to food products and the source of different food products.</p> <p>Know and use relevant technical and sensory vocabulary.</p> <p>Understand how to strengthen, stiffen</p>	<p>Know how to use utensils and equipment including heat sources to prepare and cook food.</p> <p>Understand about seasonality in relation to food products and the source of different food products.</p> <p>Know and use relevant technical and sensory vocabulary.</p> <p>Know a 3-D textile product can be made from a combination of accurately made pattern pieces, fabric</p>

	<p>and vegetables are part of The eatwell plate.</p>	<p>e.g. running stitch, glue, over stitch, stapling.</p> <p>Explore different finishing techniques e.g. using painting, fabric crayons, stitching, sequins, buttons and ribbons.</p> <p>Understand where a range of fruit and vegetables come from e.g. farmed or grown at home.</p> <p>Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of The eatwell plate.</p>	<p>reinforce existing fabrics.</p> <p>Understand how to securely join two pieces of fabric together.</p> <p>Understand the need for patterns and seam allowances.</p> <p>Understand and use lever and linkage mechanisms.</p> <p>Distinguish between fixed and loose pivots.</p>	<p>incorporating switches, bulbs and buzzers.</p> <p>Apply their understanding of computing to program and control their products.</p> <p>Know and use technical vocabulary relevant to the project.</p> <p>Develop and use knowledge of how to construct strong, stiff shell structures.</p> <p>Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes.</p>	<p>and reinforce 3-D frameworks.</p> <p>Understand and use electrical systems in their products.</p> <p>Apply their understanding of computing to program, monitor and control their products.</p>	<p>shapes and different fabrics.</p> <p>Know fabrics can be strengthened, stiffened and reinforced where appropriate.</p> <p>Understand that mechanical and electrical systems have an input, process and an output.</p> <p>Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement.</p>
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Progression of Vocabulary

<p>Y1 & Y2 Vocabulary:</p>	<p><u>Slider & Leavers:</u> slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards, design, make, evaluate, user, purpose, ideas, design criteria, product, function</p> <p><u>Wheels & Axles:</u> vehicle, wheel, axle, axle holder, chassis, body, cab, assembling, cutting, joining, shaping, finishing, fixed, free, moving,</p>	<p><u>Freestanding Structures:</u> cut, fold, join, fix, structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved, metal, wood, plastic, circle, triangle, square, rectangle, cuboid, cube, cylinder, design, make, evaluate, user, purpose, ideas, design criteria,</p>	<p><u>Preparing Fruit & Vegetables:</u> fruit and vegetable names, names of equipment and utensils, sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard, flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, investigating tasting, arranging, popular, design, evaluate, criteria</p>	<p><u>Templates & Joining:</u> names of existing products, joining and finishing techniques, tools, fabrics and components, template, pattern pieces, mark out, join, decorate, finish, features, suitable, quality mock-up, design brief, design criteria, make, evaluate, user, purpose, function</p>		
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	mechanism, names of tools, equipment and materials used, design, make, evaluate, purpose, user, criteria, functional	product, function				
Y3 & Y4 Vocabulary:	<u>Leavers & Linkages:</u> mechanism, lever, linkage, pivot, slot, bridge, guide, system, input, process, output, linear, rotary, oscillating, reciprocating, user, purpose, function, prototype, design criteria, innovative, appealing, design brief	<u>Shell Structures:</u> shell structure, three-dimensional (3-D) shape, net, cube, cuboid, prism, vertex, edge, face, length, width, breadth, capacity, marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating, font, lettering, text, graphics, decision, evaluating, design brief design criteria, innovative, prototype	<u>Healthy & Varied Diet:</u> name of products, names of equipment, utensils, techniques and ingredients, texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet, planning, design criteria, purpose, user, annotated sketch, sensory evaluations	<u>2D Shape & 3D products:</u> fabric, names of fabrics, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance, user, purpose, design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, aesthetics, function, pattern pieces	<u>Simple Circuits & Switches:</u> series circuit, fault, connection, toggle switch, push-to-make switch, push-to-break switch, battery, battery holder, bulb, bulb holder, wire, insulator, conductor, crocodile clip, control, program, system, input device, output device, user, purpose, function, prototype, design criteria, innovative, appealing, design brief	
Y5 & Y6 Vocabulary:	<u>Pulleys or Gears:</u> pulley, drive belt, gear, rotation, spindle, driver, follower, ratio, transmit, axle, motor, circuit, switch, circuit diagram, annotated drawings, exploded diagrams, mechanical system, electrical system, input, process, output, design decisions, functionality, innovation, authentic, user, purpose, design specification, design brief	<u>Frame Structures:</u> frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent, design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional	<u>Celebrating Culture & Seasonality:</u> Ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs, fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality, utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble, design specification, innovative, research, evaluate, design brief	<u>Combining Different Fabric Shapes:</u> seam, seam allowance, wadding, reinforce, right side, wrong side, hem, template, pattern pieces, name of textiles and fastenings used, pins, needles, thread, pinking shears, fastenings, iron transfer paper, design criteria, annotate, design decisions, functionality, innovation, authentic, user, purpose, evaluate, mock-up, prototype	<u>More complex switches & circuits:</u> series circuit, parallel circuit, names of switches and components, input device, output device, system, monitor, control, program, flowchart, function, innovative, design specification, design brief, user, purpose	

