

**DESIGN AND TECHNOLOGY SKILLS PROGRESSION****DESIGN**

EARLY YEARS FS1	EARLY YEARS FS2	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
*Select appropriate resources *Use gestures, talking and arrangements of materials and components to show design * Use contexts set by the teacher and themselves *Use language of designing and making (join, build, shape, longer, shorter, heavier etc.)	*Select appropriate resources *Use gestures, talking and arrangements of materials and components to show design * Use contexts set by the teacher and themselves *Use language of designing and making (join, build, shape, longer, shorter, heavier etc.)	* have own ideas * explain what they want to do *explain what their product is for, and how it will work * use pictures and words to plan, begin to use models * design a product for themselves following design criteria *research similar existing products	* have own ideas and plan what to do next * explain what they want to do and describe how they may do it * explain purpose of product, how it will work and how it will be suitable for the user * describe design using pictures, words, models, diagrams, begin to use ICT * design products for themselves and others following design criteria * choose best tools and materials, and explain choices * use knowledge of existing products to produce ideas	*begin to research others' needs * show design meets a range of requirements * describe purpose of product * follow a given design criteria * have at least one idea about how to create product * create a plan which shows order, equipment and tools *describe design using an accurately labelled sketch and words * make design decisions *explain how product will work * make a prototype * begin to use computers to show design	* use research for design ideas * show design meets a range of requirements and is fit for purpose *begin to create own design criteria *have at least one idea about how to create product and suggest improvements for design. * produce a plan and explain it to others *say how realistic plan is. *include an annotated sketch *make and explain design decisions considering availability of resources *explain how product will work * make a prototype *begin to use computers to show design.	*use internet and questionnaires for research and design ideas *take a user's view into account when designing * begin to consider needs/wants of individuals/groups when designing and ensure product is fit for purpose *create own design criteria * have a range of ideas *produce a logical, realistic plan and explain it to others. *use cross-sectional planning and annotated sketches * make design decisions considering time and resources. *clearly explain how parts of product will work. *model and refine design ideas by making prototypes	* draw on market research to inform design * use research of user's individual needs, wants, requirements for design * identify features of design that will appeal to the intended user * create own design criteria and specification * come up with innovative design ideas *follow and refine a logical plan. *use annotated sketches, cross-sectional planning and exploded diagrams * make design decisions, considering, resources and cost * clearly explain how parts of design will work, and how they are fit for purpose



						and using pattern pieces. *use computer-aided designs	* independently model and refine design ideas by making prototypes and using pattern pieces * use computer-aided designs
MAKE							
EARLY YEARS FS1	EARLY YEARS FS2	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
*Construct with a purpose, using a variety of resources *Use simple tools and techniques *Build / construct with a wide range of objects *Select tools & techniques to shape, assemble and join *Replicate structures with materials / components *Discuss how to make an activity safe and hygienic *Record experiences by drawing, writing, voice recording *Understand different media can be combined for a purpose	*Construct with a purpose, using a variety of resources *Use simple tools and techniques *Build / construct with a wide range of objects *Select tools & techniques to shape, assemble and join *Replicate structures with materials / components *Discuss how to make an activity safe and hygienic *Record experiences by drawing, writing, voice recording *Understand different media can be combined for a purpose	*explain what they are making and why *consider what they need to do next *select tools/equipment to cut, shape, join, finish and explain choices *measure, mark out, cut and shape, with support *choose suitable materials and explain choices *try to use finishing techniques to make product look good *work in a safe and hygienic manner	*explain what they are making and why it fits the purpose *make suggestions as to what they need to do next. *join materials/components together in different ways *measure, mark out, cut and shape materials and components, with support. *describe which tools they are using and why *choose suitable materials and explain choices depending on characteristics. *use finishing techniques to make product look good *work safely and hygienically	*select suitable tools/equipment, explain choices; begin to use them accurately * select appropriate materials, fit for purpose. * work through plan in order *consider how good product will be * begin to measure, mark out, cut and shape materials/components with some accuracy * begin to assemble, join and combine materials with some accuracy * begin to apply a range of finishing	* select suitable tools and equipment, explain choices in relation to required techniques and use accurately *select appropriate materials, fit for purpose; explain choices * work through plan in order. * realise if product is going to be good quality * measure, mark out, cut and shape materials/components with some accuracy *assemble, join and combine materials with some accuracy *apply a range of	* use selected tools/equipment with good level of precision * produce suitable lists of tools, equipment/materials needed *select appropriate materials, fit for purpose; explain choices, considering functionality * create and follow detailed step-by-step plan * explain how product will appeal to an audience * mainly accurately measure, mark out, cut and shape materials/components	* use selected tools and equipment precisely *produce suitable lists of tools, equipment, materials needed, considering constraints * select appropriate materials, fit for purpose; explain choices, considering functionality and aesthetics * create, follow, and adapt detailed step-by-step plans *explain how product will appeal to audience; make changes to improve quality * accurately measure, mark out, cut and shape materials/component s



				techniques with some accuracy	finishing techniques with some accuracy	*mainly accurately assemble, join and combine materials/components * mainly accurately apply a range of finishing techniques * use techniques that involve a small number of steps * begin to be resourceful with practical problems	* accurately assemble, join and combine materials /components * accurately apply a range of finishing techniques * use techniques that involve a number of steps * be resourceful with practical problems
EVALUATE							
EARLY YEARS FS1	EARLY YEARS FS2	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
*Adapt work if necessary *Dismantle, examine, talk about existing objects/ structures *Consider and manage some risks *Practise some appropriate safety measures independently *Talk about how things work *Look at similarities and differences between existing objects / materials / tools *Show an interest in technological toys *Describe textures	*Adapt work if necessary *Dismantle, examine, talk about existing objects/ structures *Consider and manage some risks *Practise some appropriate safety measures independently *Talk about how things work *Look at similarities and differences between existing objects / materials / tools *Show an interest in technological toys *Describe textures	*Talk about their work, linking it to what they were asked to do * talk about existing products considering: use, materials, how they work, audience, where they might be used *talk about existing products, and say what is and isn't good * talk about things that other people have made *begin to talk	* Describe what went well, thinking about design criteria * talk about existing products considering: use, materials, how they work, audience, where they might be used; express personal opinion *evaluate how good existing products are *talk about what they would do differently if they were to do it again and why	* Look at design criteria while designing and making *use design criteria to evaluate finished product * say what they would change to make design better *begin to evaluate existing products, considering: how well they have been made, materials, whether they work, how they have been made, fit for purpose * begin to understand by whom, when and	*Refer to design criteria while designing and making *use criteria to evaluate product * begin to explain how they could improve original design *evaluate existing products, considering: how well they've been made, materials, whether they work, how they have been made, fit for purpose * discuss by whom, when and where	*Evaluate quality of design while designing and making *evaluate ideas and finished product against specification, considering purpose and appearance. *test and evaluate final product * evaluate and discuss existing products, considering: how well they've been made, materials, whether they work, how they have	*Evaluate quality of design while designing and making; is it fit for purpose? * keep checking design is best it can be. *evaluate ideas and finished product against specification, stating if it's fit for purpose *test and evaluate final product; explain what would improve it and the effect different resources may have had *do thorough evaluations of



		about what could make product better		where products were designed * learn about some inventors, designers, engineers, chefs, manufacturers of ground-breaking products	products were designed * research whether products can be recycled or reused * know about some inventors, designers, engineers, chefs, manufacturers of ground-breaking products	been made, fit for purpose * begin to evaluate how much products cost to make and how innovative they are *research how sustainable materials are *talk about some key inventors, designers, engineers, chefs, manufacturers of ground-breaking products	existing products considering: how well they've been made, materials, whether they work, how they've been made, fit for purpose *evaluate how much products cost to make and how innovative they are *research and discuss how sustainable materials are *consider the impact of products beyond their intended purpose *discuss some key inventors, designers, engineers, chefs, manufacturers of ground-breaking products
TECHNICAL KNOWLEDGE							
STRUCTURES / MATERIALS							
EARLY YEARS FS1	EARLY YEARS FS2	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
*Develop new skills & techniques *Use tools for a purpose	*Use different techniques for joining materials *Use tools independently, with care & precision	*begin to measure and join materials, with some support *describe differences in materials *suggest ways to make	*measure materials *describe some different characteristics of materials *join materials in different ways	*use appropriate materials *work accurately to make cuts and holes * join materials *begin to make strong structures	*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	*select materials carefully, considering intended use of product and appearance *explain how product meets design criteria *measure accurately	*select materials carefully, considering intended use of the product, the aesthetics and functionality. *explain how product meets design criteria * reinforce and strengthen a 3D



		material/product stronger	*use joining, rolling or folding to make it stronger *use own ideas to try to make product stronger			enough to ensure precision *ensure product is strong and fit for purpose *begin to reinforce and strengthen a 3D frame	frame
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MECHANISMS

EARLY YEARS FS1	EARLY YEARS FS2	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
*begin to understand how to use wheels to make a toy move	* begin to use simple a linkage to create movement	* begin to understand how wheels and axles work	*use levers or slides	*select appropriate tools / techniques *alter product after checking, to make it better *begin to try new/different ideas *use simple lever and linkages to create movement *begin to use cams, to create movement	*select most appropriate tools / techniques *explain alterations to product after checking it *grow in confidence about trying new / different ideas. *use levers, pulleys and linkages to create movement	*refine product after testing *grow in confidence about trying new / different ideas *use pneumatics to create movement *begin to use pulleys or gears to create movement	*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

COOKING AND NUTRITION

EARLY YEARS FS1	EARLY YEARS FS2	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
*Begin to understand some food preparation tools, techniques and processes *Practise stirring, mixing, pouring, blending	*Begin to understand some food preparation tools, techniques and processes *Practise stirring, mixing, pouring, blending	*describe textures *wash hands & clean surfaces *think of interesting ways to decorate food *say where some foods	*explain hygiene and keep a hygienic kitchen *describe properties of ingredients and importance of varied diet *say where food comes from (animal,	*carefully select ingredients *use equipment safely *make product look attractive *think about how to grow plants to use in cooking	*explain how to be safe/hygienic *think about presenting product in interesting/attractive ways *understand ingredients can be fresh, pre-cooked or	*explain how to be safe / hygienic and follow own guidelines *present product well - interesting, attractive, fit for purpose	*understand a recipe can be adapted by adding / substituting ingredients *explain seasonality of foods *learn about food processing methods



*Discuss how to make an activity safe and hygienic *Discuss use of senses *Understand need for variety in food *Begin to understand that eating well contributes to good health	*Discuss how to make an activity safe and hygienic *Discuss use of senses *Understand need for variety in food *Begin to understand that eating well contributes to good health	- come from, (i.e. plant or animal) *describe differences between some food groups (i.e. sweet, vegetable etc.) *discuss how fruit and vegetables are healthy *cut, peel and grate safely, with support	- underground etc.) *describe how food is farmed, home-grown, caught - describe "five a day" *cut, peel and grate with increasing confidence	*begin to understand food comes from UK and wider world *describe how healthy diet/ variety/balance of food/drinks *draw 'Eat Well' plate; explain there are groups of food *explain how food and drink are needed for active/healthy bodies. *prepare and cook some dishes safely and hygienically *grow in confidence using some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking	- processed *begin to understand about food being grown, reared or caught in the UK or wider world *describe 'Eat Well' plate and how a healthy diet / variety / balance of food and drinks *explain importance of food and drink for active, healthy bodies *prepare and cook some dishes safely and hygienically *use some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking	*begin to understand seasonality of foods *understand food can be grown, reared or caught in the UK and the wider world *describe how recipes can be adapted to change appearance, taste, texture, aroma *explain how there are different substances in food / drink needed for health *prepare and cook some savoury dishes safely and hygienically including, where appropriate, use of heat source * use range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.	*name some types of food that are grown, reared or caught in the UK or wider world *adapt recipes to change appearance, taste, texture or aroma. *describe some of the different substances in food and drink, and how they can affect health *prepare and cook a variety of savoury dishes safely and hygienically including, where appropriate, the use of heat source. *use a range of techniques confidently such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.
TEXTILES							
EARLY YEARS FS1	EARLY YEARS FS2	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
			*measure, cut and join textiles to make a product, with some support		*join different textiles in different ways *choose textiles considering		*think about user and aesthetics when choosing textiles *use own template * think about how to



			*choose suitable textiles *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. *use running stitch		appearance and functionality *begin to understand that a simple fabric shape can be used to make a 3D textiles project *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 *use running stitch, back stitch, satin stitch and scatter stitch		make product strong and look better *think of a range of ways to join things *begin to understand that a single 3D textiles project can be made from a combination of fabric shapes. *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 *use running stitch, blanket stitch and whip stitch
ELECTRICAL SYSTEMS							
EARLY YEARS FS1	EARLY YEARS FS2	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
					(Incorporated into Science sequence) *use simple circuit in product *begin to use number of		(Incorporated into Science sequence) *incorporate switch into product *confidently use number of components in



					components in circuit *begin to be able to program a computer to monitor changes in environment and control product		circuit *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
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