



## DESIGN AND TECHNOLOGY SKILLS PROGRESSION

### DESIGN

EARLY YEARS FS1	EARLY YEARS FS2	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
<ul style="list-style-type: none"> <li>*Select appropriate resources</li> <li>*Use gestures, talking and arrangements of materials and components to show design</li> <li>* Use contexts set by the teacher and themselves</li> <li>*Use language of designing and making (join, build, shape, longer, shorter, heavier etc.)</li> </ul>	<ul style="list-style-type: none"> <li>*Select appropriate resources</li> <li>*Use gestures, talking and arrangements of materials and components to show design</li> <li>* Use contexts set by the teacher and themselves</li> <li>*Use language of designing and making (join, build, shape, longer, shorter, heavier etc.)</li> </ul>	<ul style="list-style-type: none"> <li>* have own ideas</li> <li>* explain what they want to do</li> <li>*explain what their product is for, and how it will work</li> <li>* use pictures and words to plan, begin to use models</li> <li>* design a product for themselves following design criteria</li> <li>*research similar existing products</li> </ul>	<ul style="list-style-type: none"> <li>* have own ideas and plan what to do next</li> <li>* explain what they want to do and describe how they may do it</li> <li>* explain purpose of product, how it will work and how it will be suitable for the user</li> <li>* describe design using pictures, words, models, diagrams, begin to use ICT</li> <li>* design products for themselves and others following design criteria</li> <li>* choose best tools and materials, and explain choices</li> <li>* use knowledge of existing products to produce ideas</li> </ul>	<ul style="list-style-type: none"> <li>*begin to research others' needs</li> <li>* show design meets a range of requirements</li> <li>* describe purpose of product</li> <li>* follow a given design criteria</li> <li>* have at least one idea about how to create product</li> <li>* create a plan which shows order, equipment and tools</li> <li>*describe design using an accurately labelled sketch and words</li> <li>* make design decisions</li> <li>*explain how product will work</li> <li>* make a prototype</li> <li>* begin to use computers to show design</li> </ul>	<ul style="list-style-type: none"> <li>* use research for design ideas</li> <li>* show design meets a range of requirements and is fit for purpose</li> <li>*begin to create own design criteria</li> <li>*have at least one idea about how to create product and suggest improvements for design.</li> <li>* produce a plan and explain it to others</li> <li>*say how realistic plan is.</li> <li>*include an annotated sketch</li> <li>*make and explain design decisions considering availability of resources</li> <li>*explain how product will work</li> <li>* make a prototype</li> <li>*begin to use computers to show design.</li> </ul>	<ul style="list-style-type: none"> <li>*use internet and questionnaires for research and design ideas</li> <li>*take a user's view into account when designing</li> <li>* begin to consider needs/wants of individuals/groups when designing and ensure product is fit for purpose</li> <li>*create own design criteria</li> <li>* have a range of ideas</li> <li>*produce a logical, realistic plan and explain it to others.</li> <li>*use cross-sectional planning and annotated sketches</li> <li>* make design decisions considering time and resources.</li> <li>*clearly explain how parts of product will work.</li> <li>*model and refine design ideas by making prototypes</li> </ul>	<ul style="list-style-type: none"> <li>* draw on market research to inform design</li> <li>* use research of user's individual needs, wants, requirements for design</li> <li>* identify features of design that will appeal to the intended user</li> <li>* create own design criteria and specification</li> <li>* come up with innovative design ideas</li> <li>*follow and refine a logical plan.</li> <li>*use annotated sketches, cross-sectional planning and exploded diagrams</li> <li>* make design decisions, considering, resources and cost</li> <li>* clearly explain how parts of design will work, and how they are fit for purpose</li> </ul>



						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
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**MAKE**

EARLY YEARS FS1	EARLY YEARS FS2	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
<p>*Construct with a purpose, using a variety of resources *Use simple tools and techniques *Build / construct with a wide range of objects *Select tools &amp; 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</p>	<p>*Construct with a purpose, using a variety of resources *Use simple tools and techniques *Build / construct with a wide range of objects *Select tools &amp; 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</p>	<p>*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</p>	<p>*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</p>	<p>*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 and components with some accuracy * begin to apply a range of finishing</p>	<p>* 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 finishing</p>	<p>* 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 *mainly accurately assemble, join and</p>	<p>* 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/components</p>



				techniques with some accuracy	techniques with some accuracy	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
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**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 about what could make product better	* 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 where products were designed	*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 products were designed	*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 been made, fit for purpose	*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 existing products considering: how

				<ul style="list-style-type: none"> <li>* learn about some inventors, designers, engineers, chefs, manufacturers of ground-breaking products</li> </ul>	<ul style="list-style-type: none"> <li>* research whether products can be recycled or reused</li> <li>* know about some inventors, designers, engineers, chefs, manufacturers of ground-breaking products</li> </ul>	<ul style="list-style-type: none"> <li>* begin to evaluate how much products cost to make and how innovative they are</li> <li>*research how sustainable materials are</li> <li>*talk about some key inventors, designers, engineers, chefs, manufacturers of ground-breaking products</li> </ul>	<ul style="list-style-type: none"> <li>well they've been made, materials, whether they work, how they've been made, fit for purpose</li> <li>*evaluate how much products cost to make and how innovative they are</li> <li>*research and discuss how sustainable materials are</li> <li>*consider the impact of products beyond their intended purpose</li> <li>*discuss some key inventors, designers, engineers, chefs, manufacturers of ground-breaking products</li> </ul>
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**TECHNICAL KNOWLEDGE  
STRUCTURES / MATERIALS**

EARLY YEARS FS1	EARLY YEARS FS2	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
<ul style="list-style-type: none"> <li>*Develop new skills &amp; techniques</li> <li>*Use tools for a purpose</li> </ul>	<ul style="list-style-type: none"> <li>*Use different techniques for joining materials</li> <li>*Use tools independently, with care &amp; precision</li> </ul>	<ul style="list-style-type: none"> <li>*begin to measure and join materials, with some support</li> <li>*describe differences in materials</li> <li>*suggest ways to make material/product stronger</li> </ul>	<ul style="list-style-type: none"> <li>*measure materials</li> <li>*describe some different characteristics of materials</li> <li>*join materials in different ways</li> <li>*use joining, rolling or folding to make it stronger</li> </ul>	<ul style="list-style-type: none"> <li>*use appropriate materials</li> <li>*work accurately to make cuts and holes</li> <li>* join materials</li> <li>*begin to make strong structures</li> </ul>	<ul style="list-style-type: none"> <li>*measure carefully to avoid mistakes</li> <li>*attempt to make product strong</li> <li>*continue working on product even if original didn't work</li> <li>*make a strong, stiff structure</li> </ul>	<ul style="list-style-type: none"> <li>*select materials carefully, considering intended use of product and appearance</li> <li>*explain how product meets design criteria</li> <li>*measure accurately enough to ensure precision</li> </ul>	<ul style="list-style-type: none"> <li>*select materials carefully, considering intended use of the product, the aesthetics and functionality.</li> <li>*explain how product meets design criteria</li> <li>* reinforce and strengthen a 3D frame</li> </ul>



			*use own ideas to try to make product stronger			*ensure product is strong and fit for purpose *begin to reinforce and strengthen a 3D 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 and linkages to create movement *use pneumatics 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 *Discuss how to make an activity	*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 come from, (i.e.	*explain hygiene and keep a hygienic kitchen *describe properties of ingredients and importance of varied diet *say where food comes from (animal, underground etc.)	*carefully select ingredients *use equipment safely *make product look attractive *think about how to grow plants to use in cooking *begin to	*explain how to be safe/hygienic *think about presenting product in interesting/ attractive ways *understand ingredients can be fresh, pre-cooked or processed	*explain how to be safe / hygienic and follow own guidelines *present product well - interesting, attractive, fit for purpose *begin to understand	*understand a recipe can be adapted by adding / substituting ingredients *explain seasonality of foods *learn about food processing methods *name some types



<p>safe and hygienic *Discuss use of senses *Understand need for variety in food *Begin to understand that eating well contributes to good health</p>	<p>*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</p>	<p>plant or animal) *describe differences between some food groups (i.e. sweet, vegetable etc.) *discuss how fruit and vegetables are healthy <b>*cut, peel and grate</b> safely, with support</p>	<p>*describe how food is farmed, home-grown, caught describe "five a day" <b>*cut, peel and grate</b> with increasing confidence</p>	<p>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: <b>peeling, chopping, slicing, grating, mixing, spreading,</b> kneading and baking</p>	<p>*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: <b>peeling, chopping, slicing, grating, mixing, spreading,</b> kneading and <b>baking</b></p>	<p>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 <b>peeling, chopping, slicing, grating, mixing,</b> spreading, kneading and baking.</p>	<p>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 <b>peeling, chopping, slicing, grating, mixing, spreading, kneading</b> and <b>baking.</b></p>
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**TEXTILES**

EARLY YEARS FS1	EARLY YEARS FS2	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
			<p>*measure, cut and join textiles to make a product, with some support *choose suitable textiles</p>		<p>*join different textiles in different ways *choose textiles considering appearance and</p>		<p>*think about user and aesthetics when choosing textiles *use own template * think about how to make product strong</p>

			<ul style="list-style-type: none"> <li>*measure textiles</li> <li>*join textiles together to make a product, and explain how I did it</li> <li>*carefully cut textiles to produce accurate pieces</li> <li>*explain choices of textile</li> <li>*understand that a 3D textile structure can be made from two identical fabric shapes.</li> <li>*use running stitch</li> </ul>		<ul style="list-style-type: none"> <li>functionality</li> <li>*begin to understand that a simple fabric shape can be used to make a 3D textiles project</li> <li>*think about user when choosing textiles</li> <li>*think about how to make product strong</li> <li>* begin to devise a template</li> <li>*explain how to join things in a different way</li> <li>*understand that a simple fabric shape can be used to make a 3D textiles project</li> <li>* use running stitch and blanket stitch</li> </ul>		<ul style="list-style-type: none"> <li>and look better</li> <li>*think of a range of ways to join things</li> <li>*begin to understand that a single 3D textiles project can be made from a combination of fabric shapes.</li> <li>*think about user's wants/needs and aesthetics when choosing textiles</li> <li>*make product attractive and strong</li> <li>*make a prototype</li> <li>*use a range of joining techniques</li> <li>*think about how product might be sold</li> <li>*think carefully about what would improve product</li> <li>*understand that a single 3D textiles project can be made from a combination of fabric shapes.</li> <li>*use running stitch, blanket stitch and whip stitch</li> </ul>
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**ELECTRICAL SYSTEMS**

EARLY YEARS FS1	EARLY YEARS FS2	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
					(Incorporated into Science sequence)		(Incorporated into Science sequence)  *incorporate switch



ST. MARY'S CATHOLIC VOLUNTARY ACADEMY



					<ul style="list-style-type: none"><li>*use simple circuit in product</li><li>*begin to use number of components in circuit</li><li>*begin to be able to program a computer to monitor changes in environment and control product</li></ul>		<ul style="list-style-type: none"><li>into product</li><li>*confidently use number of components in circuit</li><li>*use different types of circuit in product</li><li>think of ways in which adding a circuit would improve product</li><li>program a computer to monitor changes in environment and control product</li></ul>
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