

Progression of D&T Skills & Age Related Expectations

- Note that not all technical skills will be covered by each year group
- Each technical skills should be covered once in KS1 and twice in KS2
- Every project should use elements of the first 3 sections: Design, Make and Evaluate

Design						
<i>Year R</i>	<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>	<i>Year 4</i>	<i>Year 5</i>	<i>Year 6</i>
<p>*Select appropriate resources *Use gestures, talking and arrangements of materials and components to show design *Use language of designing and making (join, build, shape, longer, shorter, heavier etc.)</p>	<p>* have own ideas * explain what I want to do *explain what my product is for, and how it will work * use pictures and words to plan, begin to use models * design a product for myself following design criteria *research similar existing products</p>	<p>* have own ideas and plan what to do next * explain what I want to do and describe how I may do it * explain purpose of product, how it will work and suitability for the user * describe design using pictures, words, models, diagrams, begin to use ICT * design products for myself and others following design criteria * use knowledge of existing products to produce ideas</p>	<p>*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 * begin to use computers to show design</p>	<p>* 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 *describe how realistic the 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.</p>	<p>*use 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. *begin to identify what the challenges are with the plan and areas that could go wrong. *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 *use computer-aided designs</p>	<p>* 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. *identify what the challenges are with the plan and describe possible solutions to problems if they arise. *use annotated sketches, cross-sectional planning and exploded diagrams * make design decisions, considering time, resources and cost * clearly explain how parts of design will work, and how they are fit for purpose * independently model and refine design ideas by making prototypes * use computer-aided designs</p>
Make						
<i>Year R</i>	<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>	<i>Year 4</i>	<i>Year 5</i>	<i>Year 6</i>

<ul style="list-style-type: none"> *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 	<ul style="list-style-type: none"> *explain what I'm making and why *consider what I need to do next *select tools/equipment to cut, shape, join, finish and explain choices *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 	<ul style="list-style-type: none"> *explain what I am making and why it fits the purpose *make suggestions as to what I need to do next. *join materials/components together in different ways *mark out, cut and shape materials and components, with support. *describe which tools I'm using and why *choose suitable materials and explain choices depending on characteristics. *use finishing techniques to make product look good *work safely and hygienically 	<ul style="list-style-type: none"> *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 techniques with some accuracy 	<ul style="list-style-type: none"> * 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 and components with some accuracy *apply a range of finishing techniques with some accuracy 	<ul style="list-style-type: none"> * use selected tools/equipment with some 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 combine materials/components * mainly accurately apply a range of finishing techniques * begin to be resourceful with practical problems 	<ul style="list-style-type: none"> * 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 * 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						
<i>Year R</i>	<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>	<i>Year 4</i>	<i>Year 5</i>	<i>Year 6</i>

<ul style="list-style-type: none"> *Dismantle, examine, talk about existing objects/structures *Practise some appropriate safety measures independently *Talk about how things work *Look at similarities and differences between existing objects / materials / tools *Describe textures 	<ul style="list-style-type: none"> *talk about my work, linking it to what I was 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 	<ul style="list-style-type: none"> * 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 I would do differently if I were to do it again and why 	<ul style="list-style-type: none"> * look at design criteria while designing and making *use design criteria to evaluate finished product * say what I 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 * learn about some inventors/designers/ engineers/chefs/ manufacturers of ground-breaking products 	<ul style="list-style-type: none"> *refer to design criteria while designing and making *use criteria to evaluate product * begin to explain how I 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 * research whether products can be recycled or reused * know about some inventors/designers/ engineers/chefs/manufacturers of ground-breaking products 	<ul style="list-style-type: none"> *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 * 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 	<ul style="list-style-type: none"> *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 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
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Technical Knowledge - Structures						
<i>Year R</i>	<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>	<i>Year 4</i>	<i>Year 5</i>	<i>Year 6</i>

	<ul style="list-style-type: none"> *begin to measure and join materials, with some support *describe differences in materials *suggest ways to make material/product stronger 	<ul style="list-style-type: none"> *measure materials *join materials *use joining, rolling or folding to make it stronger *use own ideas to try to make product stronger 	<ul style="list-style-type: none"> *use appropriate materials and measure *work accurately to make cuts and holes * join materials in different ways *begin to make strong structures 	<ul style="list-style-type: none"> *select appropriate materials and 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 product and appearance *measure accurately enough to ensure precision *ensure product is strong and fit for purpose *begin to reinforce and strengthen a 3D frame 	<ul style="list-style-type: none"> *select materials carefully, considering intended use of the product, the aesthetics and functionality. *measure and join materials accurately and in a variety of ways. * reinforce and strengthen a 3D frame
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Technical Knowledge - Mechanisms

<i>Year R</i>	<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>	<i>Year 4</i>	<i>Year 5</i>	<i>Year 6</i>
	<ul style="list-style-type: none"> *begin to use levers or slides 	<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 appropriate tools / techniques *alter product after checking, to make it better *begin to try new/different ideas to create movement *use simple lever and linkages to create movement 	<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 to create movement. *use levers and linkages to create movement 	<ul style="list-style-type: none"> *refine product after testing *grow in confidence about trying new / different ideas *begin to use cams, pulleys or gears to create movement 	<ul style="list-style-type: none"> *refine product after testing, considering aesthetics, functionality and purpose *be confident to try new / different ideas *use cams, pulleys and gears to create movement

Technical Knowledge - Textiles

<i>Year R</i>	<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>	<i>Year 4</i>	<i>Year 5</i>	<i>Year 6</i>
	<ul style="list-style-type: none"> *measure, cut and join textiles to make a product, with some support *choose suitable textiles 	<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 	<ul style="list-style-type: none"> *join different textiles in different ways *choose textiles considering appearance and functionality *begin to understand that a simple fabric shape can be used to make a 3D textiles project 	<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 materials 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 and aesthetics when choosing textiles *use own template * think about how to make product strong and look better *think of a range of ways to join materials *begin to understand that a single 3D textiles project can be made from a combination of fabric shapes. 	<ul style="list-style-type: none"> *think about user's wants/needs and aesthetics when choosing textiles *make product attractive and strong *use a range of joining techniques *think carefully about what would improve product *understand that a single 3D textiles project can be made from a combination of fabric shapes.

Technical Knowledge – Food and Nutrition

Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<ul style="list-style-type: none"> *Begin to understand some food preparation tools and techniques *Practise stirring, mixing, pouring. *Discuss how to make an activity safe and hygienic *Discuss use of senses *Begin to understand that eating well contributes to good health 	<ul style="list-style-type: none"> *describe textures *wash hands & clean surfaces *think of interesting ways to decorate food *say where some foods 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 	<ul style="list-style-type: none"> *explain hygiene and keep a hygienic kitchen *describe properties of ingredients and importance of varied diet *say where food comes from (animal, underground etc.) *describe how food is farmed, home-grown, caught *draw eat well plate; explain there are groups of food *describe “five a day” *cut, peel and grate with increasing confidence 	<ul style="list-style-type: none"> *carefully select ingredients *use equipment safely *make product look attractive *begin to understand food comes from UK and wider world *describe how healthy diet is created by balance of food/drinks *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 	<ul style="list-style-type: none"> *explain how to be safe / safe/hygienic *think about presenting product in interesting/ attractive ways *understand ingredients can be fresh, pre-cooked or 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 	<ul style="list-style-type: none"> *explain how to be safe / hygienic and follow own guidelines *present product well - interesting, attractive, fit for purpose *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. *being to understand how to cater for people with allergies. 	<ul style="list-style-type: none"> *understand a recipe can be adapted by adding / substituting ingredients *explain seasonality of foods *learn about food processing methods *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. *understand some common allergies and which recipes would be suitable or not for people with those allergies.

Technical Knowledge – Electrical Systems

Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
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			<ul style="list-style-type: none"> *use simple circuit in product *learn about how to program a computer to control product. 	<ul style="list-style-type: none"> *use number of components in circuit *program a computer to control product 	<ul style="list-style-type: none"> *incorporate switch into product *confidently use number of components in circuit *begin to be able to program a computer to monitor changes in environment and 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
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Year R

		AUTUMN	SPRING	SUMMER
Design	Talk and use gestures involving the language of design.			
Make	Construct with a purpose using a variety of tools, techniques and resources.			
Evaluate	Talk about existing objects and how things work.			
Technical Knowledge - Structures				
Technical Knowledge - Mechanisms				
Technical Knowledge – Textiles				
Technical Knowledge – Food and Nutrition	Understand simple food preparation tools and techniques and practise stirring, pouring and mixing. Discuss how to make an activity hygienic and being to understand that eating well contributes to good health.			
Technical Knowledge – Electrical Systems				

Year 1

		AUTUMN	SPRING	SUMMER
Design	Use a design criteria to design a product using pictures and words, explain what the product is for and what they want to do.			
Make	Choose suitable materials, tools and equipment to cut, shape, join, finish and explain choices.			
Evaluate	Talk about existing products and how they work. Evaluate what could make my/others product better.			
Technical Knowledge - Structures	Begin to measure and join materials with support and suggest how to make a product stronger.			
Technical Knowledge - Mechanisms	Begin to use levers or sliders.			
Technical Knowledge – Textiles	Choose suitable textiles and measure, cut and join textiles to make a product, with some support.			
Technical Knowledge – Food and Nutrition	Practise good levels of food hygiene and discuss how fruit and vegetables are healthy. Discuss where a range of foods come from and the differences between them. Peel, cut and grate with support			
Technical Knowledge – Electrical Systems				

Year 2

		AUTUMN	SPRING	SUMMER
Design	Use a design criteria and knowledge of existing products to design a product. Explain the purpose of the product, how it will work and suitability for the user.			
Make	Chpose suitable materials, components and tools and join them together in different ways. Explain choices and use finishing techniques to make the product look good.			
Evaluate	Describe what went well and what they would do differently, using the design criteria to describe. Talk about existing products and evaluate how good they are.			
Technical Knowledge - Structures	Measure and join materials and use ideas to try to strengthen a product.			
Technical Knowledge - Mechanisms	Use levers or sliders and begin to understand wheels and axels.			
Technical Knowledge – Textiles	Measure textiles and join together to make a product, explaining how they did it. Carefully cut textiles to produce accurate pieces			
Technical Knowledge – Food and Nutrition	Discuss the importance of hygiene and the importance of a varied diet, including the meaning of ‘five a day’. Describe where food comes from and cut peel and grate with increasing confidence.			

Technical Knowledge – Electrical Systems				
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Year 3

		AUTUMN	SPRING	SUMMER
Design	Research others' needs in order to design a product using a design criteria, making specific design decisions and discussing and demonstrating the design using an accurately labelled sketch and words.			
Make	Select suitable tools and equipment and begin to use them accurately to measure, mark out, cut and shape, working through their plan in order. Assemble, join and use finishing techniques with some accuracy.			
Evaluate	Use design criteria to evaluate their product and say what they would change to make it better. Evaluate existing products considering whether they are fit for purpose and learn about real life inventors and designers.			
Technical Knowledge - Structures	Use appropriate materials and work accurately to measure, make cuts/holes and join in different ways, beginning to make strong structures.			
Technical Knowledge - Mechanisms	Begin to try new/different ideas to create movement and select appropriate tools and techniques, making alterations to improve. Use simple lever and linkages to create movement.			
Technical Knowledge – Textiles	Join different textiles in different ways and choose textiles considering appearance and functionality. Begin to understand that a simple fabric shape can be used to make a 3D textiles project.			
Technical Knowledge – Food and Nutrition	Use equipment safely and prepare food hygienically. Explain what consists of a healthy diet and how it is needed for healthy bodies. Carefully select ingredients and grow in confidence when using some techniques such as peeling, chopping, mixing, kneading etc.			
Technical Knowledge – Electrical Systems	Use simple circuit in product. Learn about how to program a computer to control product.			

Year 4

		AUTUMN	SPRING	SUMMER
Design	Research design ideas and show that a design meets a range of requirements, which are suitable and realistic for a user, making and explaining design decisions whilst considering availability of resources.			
Make	Select suitable tools and equipment and explain choices in relation to required techniques, working through their plan in order. Measure, mark out, cut, shape, assemble and join materials with some accuracy.			
Evaluate	Use criteria to evaluate and begin to explain how to improve the original design. Evaluate existing materials and suitability and research whether products can be reused or recycled. Learn about some real life inventors and designers.			
Technical Knowledge - Structures	Select appropriate materials and make a strong structure. Keep working on a product even when it does not go to plan.			
Technical Knowledge - Mechanisms	Grow in confidence about trying new / different ideas to create movement and select most appropriate tools and techniques, making alterations to improve. Use levers and linkages to create movement			
Technical Knowledge – Textiles	Think about the user when choosing textiles and how to make product strong. Begin to devise a template. Explain how to join materials in a different way and understand that a simple fabric shape can be used to make a 3D textiles project.			
Technical Knowledge – Food and Nutrition	Explain how to be safe and hygienic, understand that understand ingredients can be fresh, pre-cooked or processed and begin to understand about food being grown, reared or caught in the UK or wider world. Use some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.			
Technical Knowledge – Electrical Systems	Use number of components in circuit. Program a computer to control product.			

Year 5

		AUTUMN	SPRING	SUMMER
Design	Use questionnaires to research and take a user's view into account when designing a product that is fit for purpose. Create their own design criteria using a range of logical and realistic ideas			
Make	Select tools and equipment with some precision and select appropriate materials which are fit for purpose and follow a detailed step-by-step plan. Mainly accurately measure, mark out, cut, shape, assemble and join and begin to be resourceful with practical resources.			
Evaluate	Evaluate quality of design and evaluate their product against specification. Evaluate existing products and whether they are fit for purpose. Discuss how innovative a			

	product is, how much they cost to make and sustainability. Talk about some key inventors and designers.			
Technical Knowledge - Structures	Select materials and measure with precision, considering the intended use of a product. Ensure product is strong and reinforce 3D frames to strengthen.			
Technical Knowledge - Mechanisms	Refine product after testing and grow in confidence about trying new / different ideas. Begin to use cams, pulleys or gears to create movement			
Technical Knowledge – Textiles	Think about user and aesthetics when choosing textiles, how to make product strong and look better and use own template. Think of a range of ways to join materials. Begin to understand that a single 3D textiles project can be made from a combination of fabric shapes.			
Technical Knowledge – Food and Nutrition	Follow their own guidelines on how to be safe and hygienic and make product look attractive and fit for purpose. Understand how food can be grown, reared or caught and begin to understand seasonality. Use a range of techniques and prepare and cook some savoury dishes, taking into consideration how recipes can be adapted to change appearance, taste, texture or aroma.			
Technical Knowledge – Electrical Systems	Incorporate switch into product. Confidently use number of components in circuit. Begin to be able to program a computer to monitor changes in environment and control product.			

Year 6

		AUTUMN	SPRING	SUMMER
Design	Draw on market research to create own design and specification with design features that will appeal to the intended user. Make specific design decisions and demonstrate with cross sections or exploded diagrams.			
Make	Select tools and materials with precision that are fit for purpose, explaining choices, functionality and aesthetics. Accurately measure, mark out, cut, shape, assemble and join materials and solve practical problems.			
Evaluate	Evaluate quality of design and finished product against the specification. Test and evaluate the final product and explain what would improve it and the effect different resources may have had. Thoroughly evaluate suitability of existing products including cost and innovation and consider impact of the product beyond intended purpose.			
Technical Knowledge - Structures	select materials carefully, considering intended use of the product, the aesthetics and functionality. Measure and join materials accurately and in a variety of ways. Reinforce and strengthen a 3D frame			

Technical Knowledge - Mechanisms	Refine product after testing, considering aesthetics, functionality and purpose. Be confident to try new / different ideas and use cams, pulleys and gears to create movement.			
Technical Knowledge – Textiles	Think about user’s wants/needs and aesthetics when choosing textiles and use a range of joining techniques. Think carefully about what would improve product and understand that a single 3D textiles project can be made from a combination of fabric shapes.			
Technical Knowledge – Food and Nutrition	Understand how to adapt a recipe by substituting ingredients to change appearance, taste, texture or aroma. Explain seasonality and food processing methods. 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.			
Technical Knowledge – Electrical Systems	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.			