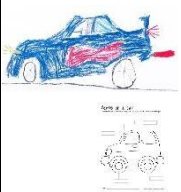
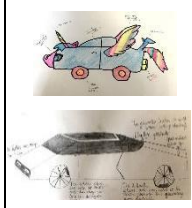
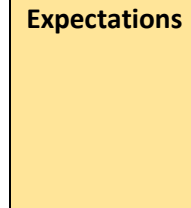
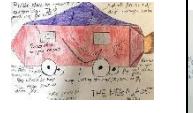
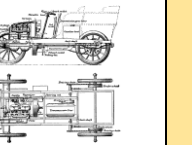
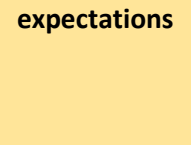




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Design and Technology Progression Map

									
Design	Use appropriate resources Use gestures, talking and arrangement of materials and components to show design Use contexts set by the teacher	Have own ideas Explain what I want to do Explain what the design is about and how it will work Be.g.in to consider suitability of different materials (using words such as strong,	Have own ideas and plan what to do next Explain what they want to do and describe how they will do it Explain purpose, how something will work and suitability Describe design using	Designs to take into account purpose function and beauty, thinking of needs of self and others Generate, develop, model and communicate their ideas through talking, drawing, templates,	Be.g.in to use research for design ideas Show design meets a range of requirements Describe purpose Follow a design criteria	Use research for design ideas Show design meets a range of requirements and is fit for purpose Be.g.in to create own design criteria Suggest improvements for design	Use internet and questionnaires for research and design ideas Take a user's view into account when designing Be.g.in to consider needs/wants of individuals when designing	Draw on market research and information to inform ideas Use research of users individual needs/wants/requirements for design Identify features of design that will appeal to the intended user	Use research and develop design criteria to inform design that is innovative, functional, sustainable and fit for purpose. Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern



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	Use language of design (join, build, shape, longer, shorter, heavier etc)	smooth, soft, hard) Follow a design criteria Research similar existing designs	pictures, words, models, diagrams, be.g.in to use ICT Consider suitability of different materials (using words such as flexible, rigid, recycle, upcycle) Follow design criteria, thinking of needs of self and others Research similar existing designs/concepts	mock-ups and where appropriate ICT	Create a plan that shows order, equipment and tools (including materials and sustainability) Describe design using accurately labelled sketch and words Make design decisions Make a prototype Be.g.in to use IT to show design	Produce a plan and explain it to others Say how realistic their plan is Include an annotated sketch Make and explain design decisions considering availability and sustainability of resources Make a prototype	Create own design idea 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 and sustainability Clearly explain how	Create own design criteria and specification Come up with innovative design ideas Follow and refine a logical plan Use cross-sectional planning and annotated sketches and exploded diagrams Make design decisions considering time and resources, sustainability and cost	pieces, and computer aided design
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						Be.g.in to use IT to show design	parts will work Model and refine ideas by making prototypes and using pattern pieces Use computer-aided designs	Clearly explain how parts will work And how they are fit for purpose Independently model and refine ideas by making prototypes and using pattern pieces Use computer-aided designs	
Make	Construct with a purpose using a variety of resources	Explain what they are making and why Consider what they need to do next	Explain what they are making and why it fits the purpose Make suggestions	Select from and use a range of tools and equipment to perform practical tasks (for	Select suitable tools/equipment, explain choices; be.g.in to	Select suitable tools/equipment, explain choices in relation to required	Select suitable tools/equipment with good level of precision	Select suitable tools/equipment precisely Produce suitable lists of tools/equipment/materials	Select from and use from a wider range of tools and equipment to perform practical tasks (for example cutting, shaping,



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	Use simple tools and techniques (e.g. scissors, pencil, sellotape, glue, string)	Select tools and techniques to shape, assemble, join, finish and explain choices	about what they need to do next Join materials/components in different ways	example cutting, shaping, joining and finishing) Select from a wide range of materials and components including construction materials, textiles and ingredients according to their characteristics	use them accurately Select appropriate materials fit for purpose, including consideration of sustainability Work through plans in order Measure, mark out, cut and shape materials and components with some support (e.g. using scissors, a ruler,	techniques and use accurately Select appropriate materials fit for purpose, explain choices, including consideration of sustainability Work through plans in order Measure, mark out, cut and shape materials and components with some accuracy (e.g. using	Produce suitable lists of tools/equipment/materials needed Select appropriate materials fit for purpose; explain choices considering functionality and sustainability Create and follow detailed step by step plan Mainly accurate measuring, marking out, cutting and shaping (e.g.	needed, considering restraints Select appropriate materials fit for purpose; explain choices considering functionality, aesthetics and sustainability Create, follow and adapt detailed step by step plan Accurately measuring, marking out, cutting and shaping (e.g. using scissors, a ruler, weighing scales)	joining, finishing) accurately Select from a wider range of materials and components, including construction, textiles and ingredients according to their function, aesthetics, sustainable qualities
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	different materials (e.g. strong, soft, bendy)	including using vocabulary reuse and recycle	ingredients using scales with support)		weighing scales)	scissors, a ruler, weighing scales)	using scissors, a ruler, weighing scales)	Accurately assemble, join and combine materials/com	
	Discuss how to make an activity safe and hygienic	Try to use finishing techniques	Describe which tools they are using and why depending on characteristics		Be.g.in to assemble, join and combine materials/co mponents with some accuracy	Assemble, join and combine materials/co mponents with some accuracy	Mainly accurate assemble, join and combine materials/co mponents	Accurately apply a range of finishing techniques	
	Record experiences by drawing, writing and voice recording	Work in a safe and hygienic manner	Choose suitable materials and explain choices, including using vocabulary upcycle, pollution, degrade		Be.g.in to apply a range of finishing techniques with some accuracy	Apply a range of finishing techniques with some accuracy	Mainly accurate apply a range of finishing techniques	Use techniques that involve several steps	
	Understand different media can be combined for a purpose		Use finishing techniques				Use techniques that involve a small number of steps	Be resourceful with practical problems	
			Work in a safely and hygienically						



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							Be.g.in to be resourceful with practical problems		
Evaluate	Adapt work if necessary Dismantle, examine talk about existing objects/subjects Consider and manage some risks Practice some appropriate safety measures independently	Talk about work linking it to the WALT Talk about exiting constructions, considering, use, materials, how a construction works and audience Say what is good and what is not good about a construction Talk about other things	Describe what went well, thinking about design criteria Talk about existing constructions, considering, use, materials, how a construction works and audience, express personal opinion Evaluate how good an existing construction is	Explore and evaluate a range of existing construction Evaluate their ideas and construction against design criteria	Look at design criteria while designing and making Use design criteria to evaluate finished construction Say what they would change to make the design better Be.g.in to evaluate existing construction,	Refer to design criteria while designing and making Use design criteria to evaluate construction Be.g.in to explain how they could improve the original design Evaluate existing construction, considering	Evaluate quality of design while designing and making Evaluate ideas and finished construction against specification s considering purpose and appearance Test and evaluate finished construction	Evaluate quality of design while designing and making: is it fit for purpose? Keep checking their design is the best it can be Evaluate ideas and finished construction against specifications considering purpose and appearance, sustainability,	Investigate and analyse a range of existing construction Evaluate and their ideas and construction against their own design criteria and consider the views of others to improve their work Understand how key events and individuals in design and technology have shaped the world



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	Talk about how things work Look at similarities and differences between existing objects/materials/tools Show an interest in technological toys Describe textures	that people have made Be.g.in to talk about improving a construction and discuss materials with regards to recyclability	and if it is recyclable Talk about what they would do differently if they were to do it again and why		considering how well they have been made, materials, whether they work, how they have been made, if they are sustainable, fit for purpose Be.g.in to understand by whom, when and where construction were designed Learn about some inventors/designers/engineers/chefs/	how well they have been made, materials, whether they work, how they have been made, if they can be sustainable, fit for purpose Discuss by whom, when and where construction were designed Know about some inventors/designers/engineers/chefs/manufacturers of groundbreaki	Evaluate and discuss existing construction, considering how well they have been made, materials, whether they work, how they have been made, if they are sustainable, fit for purpose Be.g.in to evaluate the cost and how innovative their construction is Discuss by whom, when	stating if it is fit for purpose Test and evaluate finished construction, explain what would improve it and the effect different resources may have had Do thorough evaluations of existing construction, considering how well they have been made, materials, whether they work, how they have been made, fit for purpose	
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					manufacture s of ground breaking construction s	ng construction s	and where construction were designed Research whether their construction can be recycled/is sustainable Talk about some inventors/de signers/engi neers/chefs/ manufacture s of ground breaking construction s	Evaluate the cost and how innovative their construction is Research and discuss how sustainable Materials are Consider the impact of constructions beyond their purpose Discuss some key inventors/desi gners/enginee rs/chefs/manu factures of ground breaking constructions	
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Technical knowledge-materials/structure		Be.g.in to measure and join with some support Describe different materials Suggest ways to make the material/const ruction stronger	Measure materials Describe some different characteristic of materials Join materials in different ways Use joining, rolling or folding to make stronger Use own ideas to try to make construction stronger	Build structures exploring how they can be made stronger, stiffer and more stable	Use appropriate materials Work accurately to make cuts and holes Join materials Be.g.in to make strong structures	Measure carefully to avoid mistakes Attempt to make construction stronger Continue working on construction even if original didn't work Make a strong stiff structure	Select materials carefully considering intended use of construction and appearance Explain how their construction meets design criteria Measure accurately enough to ensure precision Ensure construction is strong and fit for purpose	Select materials carefully considering intended use of construction, aesthetics, functionality and sustainability Explain how their construction meets design criteria Reinforce and strengthen a 3D frame	Apply their understanding of how to strengthen, stiffen and reinforce more complex structures
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							Be.g.in to reinforce and strengthen a 3D frame		
Technical Knowledge Mechanisms	Have experience of levers or slides	Be.g.in to use levers or slides	Use levers or slides Be.g.in to understand how to use wheels and axels	Explore and use mechanisms (e.g. levers, sliders, wheels and axels) in their constructions	Select appropriate tools/techniques Alter construction after to checking to make it better Be.g.in to try new/different ideas Use simple levers and linkages to create movement	Select most appropriate tools/techniques Explain alterations to their construction after checking it Grow in confidence about trying new/different ideas Use levers and linkages to create movement Use pneumatics	Refine construction after testing Grow in confidence about trying new/different ideas Be.g.in to use cams, pulleys or gears to create movement	Refine construction after testing, considering aesthetics, functionality, purpose and sustainability Incorporate hydraulics and pneumatics Be confident about trying new/different ideas Use cams, pulleys or gears to create movement	Understand and use mechanical systems in their construction (e.g. gears, pulleys, cams, linkages)



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						to create movement			
Technical Knowledge- Textiles	Have experience of using a variety of textiles (big and small), cutting, collaging and joining Have experience of threading bobbins and through pre-cut holes	Measure, cut and join textiles to make a construction with some support Talk about the different properties of different fabrics (e.g. furry, silky, stiff) Choose suitable textiles	Measure textiles Discuss the different properties of different fabrics and how that might influence the choices they make (eh 'This fabric is too stiff to make a curtain for the doll's house) Join textiles together to make a construction and explain how they did it Carefully cut textiles to		Join different textiles in different ways Be.g.in to understand different fabrics are made in different ways and that there are natural and man-made fabrics Choose textiles considering appearance and functionality Being to understand that a simple	Think about user when choosing textiles Understand that there are natural and manmade fabrics and be.g.in to understand what the manufacturing process consists of Think about how to make project strong Be.g.in to devise a template	Think about user and aesthetics when choosing textiles Be.g.in to understand the manufacturing process of fabrics and possible repercussion on the wider world Think about how to make project strong and look better Use own template	Think about users wants, needs and aesthetics when choosing textiles Understand the impact of 'fast fashion' and that some fabrics are sustainable and some are not Make project attractive and strong Make a prototype Use a range of joining techniques	



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			produce accurate pieces Explain choices of textiles Understand that a 3D textile construction can be produced from two identical pieces		fabric shape can be used to produce a 3D textiles project	Explain how to join things in a different way Understand that a simple fabric shape can be used to produce a 3D textiles project	Think of a range of ways to join things Be.g.in to understand that a single textile project can be made from a combination of fabric shapes	Understand that a single textile project can be made from a combination of fabric shapes	
Technical knowledge-food and nutrition	Be.g.in to understand some food preparation tools, techniques and processes Practice stirring,	Describe textures Wash hands and clean surfaces Think of interesting ways to decorate foods	Explain hygiene and keep a hygienic working area Describe properties of different ingredients and	Use basic principles of a healthy and varied diet to prepare dishes Understand where food comes from	Carefully select ingredients Use equipment safely Think about how to grown plants	Explain how to be safe and hygienic Think about presenting food in interesting and attractive ways	Explain how to be safe and hygienic and follow own guidelines Present food in interesting and	Understand a recipe can be adapted by adding/substituting ingredients Learn about preserving methods	Understand the principles of a healthy and varied diet Prepare and cook a variety of predominately savoury dishes using a range of techniques



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	mixing, pouring, blending Discuss how to make an activity safe and hygienic Discuss use of senses Understand the need for a variety of food Be.g.in to understand that eating well contributes to good health Have experience of tasting unusual or	Say where some foods come from (e.g. plant or animal) Describe difference between some food groups (e.g. sweet, vegetable etc) Discuss how fruit and vegetables are healthy Be.g.in to understand that different countries and cultures have different cuisines Cut, peel and grate safely with support	importance of a varied diet Say where food comes from (e.g. underground, tree, hot country) Be.g.in to understand seasonality (e.g. apples grown on trees in the Autumn) Describe how different food is farmed (plant and animal) Draw eat well plate and describe there are different groups of food	Understand different countries and cultures have different cuisines Be.g.in to understand seasonality Be.g.in to understand what a balanced diet is	to use in cooking Be.g.in to understand that food comes from the UK and the wider world and that some food at some times is not available in the UK because of seasonality (e.g. strawberries, asparagus) Describe how healthy diet=variety/ balance of food/drink Explain how food and	Understand food products can be fresh, pre-cooked, preserved or processed Understand that some foods are not always available in the UK because of seasonality and climate Be.g.in to understand the implications of importing food from far away (e.g. air miles and food standards)	attractive ways Understand food products can be fresh, pre-cooked, preserved or processed Understand the implications of importing food from far away (e.g. air miles and food standards) Be.g.in to understand food labelling Describe how recipes can be	Learn about food processing methods (e.g. pickling, drying, salting) Understand food labelling (e.g. sell by dates, use by dates, where the food was grown, ethical/fairtrade symbols) Prepare and cook a variety of savoury dishes safely and hygienically, including where appropriate a heat source	Understand seasonality and know where and how a variety of ingredients are grown, reared, processed and possible implications on the wider world Know what a balanced diet is Consider food ethics
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	unfamiliar foods		(e.g. food that gives us energy, builds our muscles, strengthens our bones and be.g.in to use terms such as carbohydrates , protein) Understand that different countries and cultures have different cusines Cut, peel and grate with increasing confidence		drink are needed for active healthy bodies Prepare and cook some dishes safely and hygienically Be.g.in to understand that some people choose different diets for different reasons (e.g. vegetarian, ve.g.an) Grow in confidence using some of the following	Describe how healthy diet=variety/ balance of food/drink Explain the importance of eating healthily for active healthy bodies Prepare and cook some dishes safely and hygienically Be familiar with the terms vegetarian, ve.g.an, gluten free, carnivore	adapted to change appearance, texture, aroma, taste Prepare and cook some savoury dishes safely and hygienically, including where appropriate a heat source Know the terms vegetarian, ve.g.an, gluten free, carnivore Use a range of techniques: peeling,	Use a range of techniques confidently: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking	
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					techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking	Use some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking	chopping, slicing, grating, mixing, spreading, kneading and baking		
Technical knowledge- electrical systems	Have experience of playing with electronic toys and know how to use them safely	Know how to use electronic toys/computer s safely and appropriately (e.g. turn off switches, handle batteries correctly, log in and out) with support	Know how to use electronic toys/computer s safely and appropriately (e.g. turn off switches, handle batteries correctly, login/out)	Know safety aspects that need to be observed with electrical appliances Be.g.in to understand what a simple circuit comprises of	Use a simple circuit in a construction Learn how to program a computer to control a construction Be.g.in to understand that there are different power sources, including, batteries,	Use a number of components in an electrical circuit Program a computer to control construction Understand there are different power sources, including,	Incorporate a switch into a construction Confidently use number of components in a circuit Be.g.in to be able to program a computer to monitor changes in environment	Use different types of circuits in construction Think of ways in which adding a circuit would improve a construction/p roject Program a computer to monitor changes in environment	Understand and use electrical systems in their construction (for example series circuits) Create a simple computer program Consider environmental impact of different energy sources



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					fossil fuels, solar, wind	batteries, fossil fuels, solar, wind and wave	and control construction Construct a simple wind powered turbine with support	and control construction Construct a simple wind powered turbine	
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