



Upper KS2 Progressions of Skills-Design Technology

Year B	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
DT	What did the Roman's do for us?(History)	Masterpiece or Monstrosity? (Art)	How can I help save the world? (Science/Geography)	Who were the Mayans? (History)	Can you generate, Design, Create? (DT)	Did Eyam Save England? (History)
Global Goals	9. Industry, Innovation and infrastructure	16. Peace, Justice and Strong Intentions	13. Climate Action 15. Life on Land 14. Life below water	11 Sustainable Cities and Communities	12. Responsible consumption and production	8. Decent Work and Economic Growth.
British Values	Democracy	Rule of Law	Individual Liberty	Mutual Respect	Democracy	Rule of Law
Enrichment opportunities			Trip to Science Museum			Trip to Eyam
Topic Area	Bridges	Electronic Greetings Card	Stuffed Toys		Pop Up Book	Food and Nutrition
Knowledge						
Technical Knowledge	<ul style="list-style-type: none"> • Exploring how to create a strong beam • Identifying arch and beam bridges and understanding the terms: compression and tension • Identifying stronger and weaker structures • Finding different 	<ul style="list-style-type: none"> • Learning the key components used to create a functioning circuit • Learning that graphite is a conductor and can be used as part of a circuit • Learning the difference between series and parallel circuits 	<ul style="list-style-type: none"> • Learning to sew blanket stitch to join fabric • Applying blanket stitch so the space between the stitches are even and regular • Threading needles independently 		<ul style="list-style-type: none"> • Knowing that an input is the motion used to start a mechanism • Knowing that output is the motion that happens as a result of starting the input • Knowing that mechanisms control movement 	<ul style="list-style-type: none"> • Understanding where food comes from - learning that beef is from cattle and how beef is reared and processed • Understanding what constitutes a balanced diet • Learning to adapt a recipe to make it healthier



	<p>ways to reinforce structures</p> <ul style="list-style-type: none"> • Understanding how triangles can be used to reinforce bridges • Articulating the difference between beam, arch, truss and suspension bridges 	<ul style="list-style-type: none"> • Understanding that breaks in a circuit will stop it from working 		<ul style="list-style-type: none"> • Describing mechanisms that can be used to change one kind of motion into another 	<ul style="list-style-type: none"> • Comparing two adapted recipes using a nutritional calculator and then identifying the healthier option
Skills					
Design	<ul style="list-style-type: none"> • Designing a stable structure that is able to support weight • Creating frame structure with focus on triangulation 	<ul style="list-style-type: none"> • Designing an electronic greetings card with a simple electrical control circuit • Creating a labelled design showing positive and negative parts in relation to the LED and the battery 	<ul style="list-style-type: none"> • Designing a stuffed toy considering the main component shapes required and creating an appropriate template • Considering proportions of individual components 	<ul style="list-style-type: none"> • Designing a popup book which uses a mixture of structures and mechanisms • Naming each mechanism, input and output accurately • Storyboarding ideas for a book 	<ul style="list-style-type: none"> • Adapting a traditional recipe, understanding that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients • Writing an amended method for a recipe to incorporate the relevant changes to ingredients • Designing appealing packaging to reflect a recipe
Make	<ul style="list-style-type: none"> • Making a range of 	<ul style="list-style-type: none"> • Making a working 	<ul style="list-style-type: none"> • Creating a 3D stuffed toy from a 	<ul style="list-style-type: none"> • Following a design 	<ul style="list-style-type: none"> • Cutting and



	<p>different shaped beam bridges</p> <ul style="list-style-type: none"> • Using triangles to create truss bridges that span a given distance and supports a load • Building a wooden bridge structure • Independently measuring and marking wood accurately • Selecting appropriate tools and equipment for particular tasks • Using the correct techniques to saws safely • Identifying where a structure needs reinforcement and using card corners for support 	<p>circuit</p> <ul style="list-style-type: none"> • Creating an electronics greeting card, referring to a design criteria • Mapping out where different components of the circuit will go 	<p>2D design</p> <ul style="list-style-type: none"> • Measuring, marking and cutting fabric accurately and independently • Creating strong and secure blanket stitches when joining fabric • Using applique to attach pieces of fabric decoration 	<p>brief to make a pop up book, neatly and with focus on accuracy</p> <ul style="list-style-type: none"> • Making mechanisms and/or structures using sliders, pivots and folds to produce movement • Using layers and spacers to hide the workings of mechanical parts for an aesthetically pleasing result 	<p>preparing vegetables safely</p> <ul style="list-style-type: none"> • Using equipment safely, including knives, hot pans and hobs • Knowing how to avoid cross contamination • Following a step by step method carefully to make a recipe
Evaluate	<ul style="list-style-type: none"> • Adapting and improving own bridge structure by identifying points of weakness and reinforcing them as necessary • Suggesting points for improvements 	<ul style="list-style-type: none"> • Evaluating a completed product against the original design sheet and looking at modifications that could be made to improve the reliability or 	<ul style="list-style-type: none"> • Testing and evaluating an end product and giving point for further improvements 	<ul style="list-style-type: none"> • Evaluating the work of others and receiving feedback on own work • Suggesting points for improvement 	<ul style="list-style-type: none"> • Identifying the nutritional differences between different products and recipes • Identifying and describing healthy benefits of food



	for own bridges and those designed by others	aesthetics of it or to incorporate another type of electronic device, eg: buzzer			groups
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