



St Mary's Catholic Junior School

Year 5



Design & Technology Long Term Plan

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Structures: Bridges		Food: what could be healthier?		Textiles: stuffed toys

Design	Make	Evaluate	Technical Knowledge
<p><u>Structures</u> Designing a stable structure that is able to support weight Creating frame structure with focus on triangulation</p> <p><u>Food</u> 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</p> <p><u>Textiles</u> Designing a stuffed toy considering the main component shapes required and creating an appropriate template Considering proportions of individual components</p>	<p><u>Structures</u> Making a range of different shaped beam bridges 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> <p><u>Food</u> Adapting a traditional recipe, understanding that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients</p>	<p><u>Structures</u> Adapting and improving own bridge structure by identifying points of weakness and reinforcing them as necessary Suggesting points for improvements for own bridges and those designed by others</p> <p><u>Food</u> Identifying the nutritional differences between different products and recipes Identifying and describing healthy benefits of food groups</p> <p><u>Textiles</u> Testing and evaluating an end product and giving point for further improvements</p>	<p><u>Structures</u> 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 ways to reinforce structures Understanding how triangles can be used to reinforce bridges Articulating the difference between beam, arch, truss and suspension bridges</p> <p><u>Food</u> Understanding where food comes from – learning that beef is from cattle and how beef is reared and processed Understanding what constitutes a balanced diet</p>

	<p>Writing an amended method for a recipe to incorporate the relevant changes to ingredients Designing appealing packaging to reflect a recipe</p> <p><u>Textiles</u> Creating a 3D stuffed toy from a 2D design 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>		<p>Learning to adapt a recipe to make it healthier Comparing two adapted recipes using a nutritional calculator and then identifying the healthier option</p> <p><u>Textiles</u> Learning to sew blanket stitch to join fabric Applying blanket stitch so the space between the stitches are even and regular Threading needles independently</p>
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	Key Knowledge	Vocabulary	Assessment Criteria – ‘Can I...? statements’
<p>Structures: Bridges</p>	<ul style="list-style-type: none"> To explore how to reinforce a beam (structure) to improve its strength To build a spaghetti truss bridge To build a wooden truss bridge. To complete, reinforce and evaluate my truss bridge. 	<p>Aesthetics Arch bridge Assemble Beam bridge Bench hook /vice Corrugation Factors Hardwood Joint Lamination Mark out Material properties Rigid Sandpaper /glasspaper Softwood Stability Stiff(ness) Strength Technique</p>	<ul style="list-style-type: none"> Can I identify stronger and weaker shapes and points where structures typically failed? Can I recognise that supporting shapes can help increase the strength of the bridge and allow it to hold more weight? Can I identify beam, arch and truss bridges and describing their differences? Can I use triangles to create a simple truss bridge that supports a load (weight)? Can I measure and mark out accurately on wood? Can I select appropriate tools and equipment for particular tasks? Can I follow health and safety rules? Can I explain why selecting appropriating materials is an important part of the design process? Can I complete my wooden truss bridge? Can I identify points of weakness and reinforce them as necessary following testing? Can I evaluate my truss bridge against a specification?

		Tenon saw /coping saw Truss bridge Visual appeal Wood file/rasp	
Food: what could be healthier?	<ul style="list-style-type: none"> To understand where food comes from To understand the term 'healthy' To adapt a traditional recipe To complete a food product 	Balanced Beef Diet Ethical Farm Ingredients Processed Reared Supermarket	<ul style="list-style-type: none"> Can I show an understanding how beef gets from the farm to our plates? Can I present the subject of my poster with clear information in an easy to read format? Can I demonstrate that I know what foods make up a balanced diet? Based on my research, Can I suggest healthy substitutions and additions to a recipe? Can I recognise nutritional differences between two similar recipes and giving some justification as to why this is? Can I amend a bolognese recipe with healthy adaptations? Can I follow a recipe to produce a healthy bolognese sauce? Can I design packaging that promotes the ingredients of the bolognese?
Textiles: stuffed toys	<ul style="list-style-type: none"> To design a stuffed toy To sew blanket stitch To create and add decorations to fabric To use a blanket stitch to assemble the components of a stuffed toy 	Appliqué Cross-stitch Design Fabric Model Running stitch Stuffed toy Template	<ul style="list-style-type: none"> Can I design a stuffed toy considering the main component shapes required and creating an appropriate template? Can I cut neatly and accurately? Can I thread a needle? Can I use a blanket stitch to join two pieces of fabric? Can I create strong and secure stitches? (blanket, running, cross stitch) Can I use applique to attach pieces of fabric decoration? Can I use stitches to decorate fabric? Can I use a blanket stitch to join two pieces of fabric? Can I stuff my toy carefully, repairing any holes or gaps? Can I evaluate my stuffed toy?