Design and Technology
Progression & Embedded Knowledge

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Nursery	**Materials** Cutting and sticking	**Structures** Animal Homes	**Cooking** Popcorn **Structures** Junk Modelling	**Cooking** Jelly **Textiles** Threading **Materials** Cutting and sticking	**Cooking** Fruit Kebabs **Structures** Junk Modelling	**Structures** Junk Modelling
Vocabulary	*Cut stick snip glue paper together*	*Build home animals stack stick attach bird feeders*	*Make popcorn pop hot corn cook sweet salty taste flavour mask animal penguin junk model*	*Make jelly instructions jungle prefer like taste different string pasta jewellery thread loop chain decorate stick cut glue press hold hat crown instrument*	*Fruit taste different like dislike kebab attach material castle harp music beanstalk*	*Attach stick glue cut hold press boat bus*
Embedded Knowledge	To explore using scissors to make snips in paper. To explore cutting a variety of materials into pieces. To explore using glue to stick small pieces of paper onto a larger piece. To explore attaching different materials together using glue.	To use junk modelling to build homes for animals. To arrange and stack natural resources to build a bug hotel. To attach junk modelling and natural resources to create bird feeders.	To follow instructions to make popcorn. To discuss the changes of the corn kernels before and after cooking. To make sweet and salty flavour and talk about which they prefer. To attach junk modelling and materials to create a 3D penguin.	To follow instructions to make jelly for the Jungle Jamboree. To make different flavours and jelly and talk about which they prefer. To use string and pasta to make jewellery for the Jungle Jamboree. To thread/loop paper to make paper chain decorations.	To learn the names of different fruits – common and exotic fruits. To taste different fruits discussing likes and dislikes and how they taste. To use fruit preferences to follow instructions to make a fruit kebab. To attach junk modelling and materials to create a 3D castle and a musical harp *(link to Music: Jack and the Beanstalk)*	To attach junk modelling and materials to create a 3D boat and bus.

				To cut and stick a variety of materials together to make party hats/crowns and musical instruments for the Jungle Jamboree.		
Reception	**Exploring Materials** Shaping and Attaching	**Seasonal Projects:** Hibernation Boxes **Cooking and Nutrition:** Baking Bread	**Structures** Boats	**Textiles** Weaving and Threading	**Seasonal Projects:** Flower Threading **Seasonal Projects:** Designing a Rainbow Salad	**Structures:** Junk Modelling - Transport
Vocabulary	*scissor, hold, snip, cut, paper, card, felt, bubble wrap, materials, shape, stick, attach, build, glue, sellotape, staples, elastic bands, lolly sticks, corks*	*autumn, season, weather, hibernate, hibernation, dormouse, hedgehog, bear, plan, design, attach, bake, baking, wash, clean, germs, ingredients, add, mix, change, dry, wet, taste, like, dislike*	*sail, anchor, hull, mast, rudder, helm, deck, crow's nest, boat, ship, junk, waterproof, float, sink, test, design, make, attach, fix, material*	*weave, thread, pinch, push, pull, through, under, over, up, down, pattern, back, front, tie, knot, hessian, needle*	*thread, punch, pinch, push, pull, through, under, over, up, down, pattern, healthy, balanced, diet, healthy eating, healthy lifestyle, mind, body, brain*	*join, stick, cut, bend. slot, smooth, bendy, bumpy, scissors. snip, cut, lift, open, push pull, break, materials, separate, fix, design*
Embedded Knowledge	To know how to hold a pair of scissors correctly to make snips in paper. To use scissors to cut paper and other materials into desired shapes. To explore different ways to attach materials together. (glue, sellotape, staples, elastic bands) To attach materials together to build a 'friendship bench'.	To design and make a hibernation box. To understand what hibernation needs and why some animals hibernate. To talk about and explain ideas. To use a variety of materials for a purpose. To taste different types of bread and discuss flavours and preferences.	To investigate how the shape and structure of boats affects the way they move. To design a boat. To use knowledge from exploration to inform design. To create a boat based upon own design. Make a boat that floats and is waterproof, considering material choices.	To develop threading and weaving skills. To be able to thread beads onto a piece of string with control. To thread beads into patterns on string to make an African necklace. To tie a knot in the end of string to create a necklace. To practise and apply threading skills with specific materials e.g., Binca	To use a range of tools and techniques to create a threaded spring flower. To design a rainbow salad recipe. To name their ingredients. To use chopping and grating equipment safely and with control. To taste their creation, reflecting upon flavours and textures. To discuss preferences and what they would do differently next time.	To explore and investigate the tools and materials in the junk modelling area. To develop scissor skills. To investigate cutting different materials. To learn how to plan and select the correct resources needed to make a model. To verbally plan and create a junk model. To share a finished model and talk about the processes in its creation.

		To observe and help (where appropriate) with the use of tools to prepare ingredients. To discuss the changes they see happening when combining ingredients together using their senses. To describe the finished product and evaluate the process.	Test their design and reflect on what could have been done differently.	To thread coloured wool through Binca to make an African basket.		To explore different ways to temporarily join materials together.
Year 1/2 Cycle A			**Cooking and nutrition: Balanced diet**			**Mechanisms: Fairground wheel**
Vocabulary			*appearance* *balanced* *carbohydrates* *chopping board* *combination* *cut* *dairy* *design* *design brief* *diet* *evaluate* *feel* *fruit* *grate* *grater* *ingredients* *menu* *oils* *proteins* *review* *scissors* *smell* *snip* *spread* *spreads* *table knife* *taste*			*design brief* *design criteria* *evaluate* *frame* *model* *opinion* *rotate* *survey*

			vegetables			
Embedded Knowledge			To recognise foods and their food groups. To identify the balance of food groups in a meal. To identify an appropriate piece of equipment to prepare a given food. To select balanced combinations of ingredients. To design based on criteria. To evaluate a dish based on design criteria.			To explore wheel mechanisms and design a fairground wheel. To select materials with appropriate properties. To build and test a moving wheel. To conduct a simple survey to gather opinions. To finish and evaluate a structure with a rotating wheel.
Year 1/2 Cycle B		**Structures: Baby Bear's Chair**			**Textiles: Puppets**	
Vocabulary		*design criteria* *man-made* *natural* *stable* *shape* *model* *properties* *structure* *test*			*decorate* *design* *fabric* *glue* *model* *hand puppet* *safety pin* *staple* *stencil*	

					template	
Embedded Knowledge		To explore the concept and features of structures and the stability of different shapes. To understand that the shape of the structure affects its strength. To make a structure according to design criteria. To produce a finished structure and evaluate its strength, stiffness and stability.			To join fabrics together using different methods. To use a template to create my design. To join two fabrics together accurately. To embellish my design using joining methods.	

Year 3 / 4 Cycle A		Cooking and Nutrition: Adapting a Recipe		Electrical Systems: Electric Poster		Structures: Constructing a Castle
Vocabulary	*n*	*adapt* *addition* *appearance* *budget* *buttery* *combine* *comment*		*battery* *bulb* *circuit* *circuit component* *crocodile wire* *design* *design criteria* *develop*		*key features* *net* *scoring* *2D* *3D* *castle* *design* *shape*

		compare *construct* *cream* *hygiene* *ingredients* *layout* *market research* *modify* *multiplication* *opinion* *pounds* *sieve* *sift* *crunchy* *cuboid* *cut* *design* *evaluate* *fold* *target audience* *taste* *texture* *unique* *wooden spoon*		*electric product* *electrical system* *feedback* *final design* *information design* *initial ideas* *peer-assessment* *public* *research* *self-assessment* *sketch*		*stable* *stiff* *strong* *structure* *tab*
Embedded Knowledge		To evaluate existing biscuit products. To select ingredients and follow a budget. To take inspiration from existing products. To make and test a prototype biscuit.		To understand the purpose of information design. To research a set topic to develop a range of initial ideas. To develop an initial idea into a final design.		To recognise how multiple shapes (2D and 3D) are combined to form a strong and stable structure. To design a castle. To construct 3D nets. To construct and evaluate my final product.

		To evaluate a final product.		To assemble my final product and incorporate a simple circuit.		
Year 3 / 4 Cycle B		Cooking and Nutrition: Eating Seasonally	Mechanical Systems: Making a Slingshot Car			Textiles: Egyptian Collars
Vocabulary		*design* *evaluate* *export* *fruit* *grate* *import* *ingredients* *Mediterranean* *appearance* *arid* *climate* *complementary* *country* *cut* *mock-up* *mountain* *peel* *polar* *seasonal* *seasons* *snip* *taste* *temperate* *texture* *tropical* *vegetable* *weather*	*chassis* *energy* *kinetic* *mechanism* *air resistance* *design* *structure* *graphics* *research* *model* *template*			*asymmetrical* *appliqué* *cotton* *cross-stitch* *embellish* *fabric* *patch* *pinking* *polyester* *running stitch* *silk* *symmetrical* *template* *thread* *unique*
Embedded Knowledge		To explain why food comes from different places	To build a car chassis.			To learn how to sew cross-stitch and appliqué.

		around the world. To explain the benefits of seasonal foods. To develop cutting and peeling skills. To evaluate seasonal ingredients. To design a mock-up using criteria. To evaluate a dish.	To design a shape that reduces air resistance. To make a model based on a chosen design. To assemble and test my completed product.			To develop and use a template. To assemble fabric parts into a fabric product. To decorate fabric using appliqué and cross-stitch.

Year 5	Cooking and Nutrition: Developing a recipe		Mechanical systems: Making a pop up book		Textiles: Stuffed Toys	
Vocabulary	*abattoir* *adaptation* *balanced* *beef* *brand* *cook* *cross contamination* *cut* *design* *hygiene* *ingredients* *label* *measure* *nutrients* *nutrition*		*criteria* *design* *input* *mechanism* *model* *motion* *reinforce* *research*		*accurate* *annotate* *appendage* *blanket stitch* *fabric* *sew* *shape* *stuffed toy*	

	nutritional value *preference* *press*					
Embedded Knowledge	To understand how ingredients are reared and processed. To make adaptations to design a recipe. To evaluate nutritional content. To design a product label. To follow and make and adapted recipe.		To design a pop up book To follow my design brief to make my pop up book To use layers and spacers to cover the working of mechanism. To create a high quality product suitable for a target user.		Design a stuffed toy To sew a blanket stitch To create and add decorations to fabric To use a blanket stitch to assemble components of a stuffed toy.	
Year 6			Cooking and Nutrition: Burgers (PlanBee)		Structures: Playgrounds.	Electrical Systems: Steady Hand Game
Vocabulary			***balance*** ***bitter*** ***bridge method*** ***complement*** ***cookbook*** ***cross-contamination*** ***enhance*** ***method*** ***pairing*** ***preparation*** ***recipe*** ***research*** ***salty*** ***sour*** ***equipment*** ***farm to fork*** ***flavours*** ***ingredients*** ***story board***		***apparatus*** ***design criteria*** ***equipment*** ***playground*** ***landscape features*** ***cladding***	***Assemble*** ***design*** ***battery*** ***battery pack*** ***benefit*** ***bulb*** ***bulb holder*** ***buzzer*** ***circuit*** ***circuit symbol*** ***component*** ***conductor*** ***copper*** ***design criteria*** ***evaluation*** ***fine motor skills*** ***fit for purpose*** ***form*** ***function***

			sweet ***umami***			***gross motor skills*** ***insulator*** ***LED*** ***user***
Embedded Knowledge			**To be adapted to match planbee** That 'flavour' is how a food or drink tastes. That many countries have 'national dishes' which are recipes associated with that country. That 'processed food' means food that has been put through multiple changes in a factory. That it is important to wash fruit and vegetables before eating to remove any dirt and insecticides. What happens to a certain food before it appears on the supermarket shelf (farm to fork).		To know that structures can be strengthened by manipulating materials and shapes. To understand what a 'footprint plan' is. To understand that in the real world, design can impact users in positive and negative ways. To know that a prototype is a cheap model to test a design idea.	To know that 'form' means the shape and appearance of an object. To know the difference between 'form' and 'function'. To understand that 'fit for purpose' means that a product works how it should and is easy to use. To know that 'form over purpose' means that a product looks good but does not work very well. To know the importance of 'form follows function' when designing: the product must be designed primarily with the function in mind. To understand the diagram perspectives 'top view', 'side view' and 'back'.