

I can...

	A Reception Design Technologist	A Year 1 Design Technologist	A Year 2 Design Technologist	A Year 3 Design Technologist	A Year 4 Design Technologist	A Year 5 Design Technologist	A Year 6 Design Technologist
Structures		<i>Constructing a windmill</i>	<i>Baby Bear's chair</i>	<i>Constructing a castle</i>	<i>Pavilions</i>		<i>Playgrounds</i>
Design		<ul style="list-style-type: none"> I understand the importance of clear design criteria 	<ul style="list-style-type: none"> I can remember that chairs are structures and need to be strong, stiff and stable I know that the chair I design for Baby Bear needs to: support Teddy; be strong, stiff and stable 	<ul style="list-style-type: none"> I can design my own castle. I can label the features of my castle. I can add two design points to the Design Specification to appeal to the person/purpose of my castle I can draw the design of my castle using 2D shapes, labelling: <ul style="list-style-type: none"> the 3D shapes that will create the features materials I need colours I will use 	<ul style="list-style-type: none"> I can design a structure that is stable and aesthetically pleasing 		<ul style="list-style-type: none"> I can design five different pieces of apparatus using three different structures I can improve my design based on peer evaluation
Make		<ul style="list-style-type: none"> I can follow instructions to cut and assemble the supporting structure of my windmill I understand what stable means and can ensure my structure has this property I can cut and assemble my turbine correctly I can attach my turbine to the axle and attach them to the structure of my windmill I can test that my turbine turns in the structure and alter the parts if it doesn't 	<ul style="list-style-type: none"> I can build a strong and stiff structure by folding paper I can test the strength of my structure I know how to create joints and structures from paper/card and tape I know how to create joints and structures 	<ul style="list-style-type: none"> I can construct a range of 3D geometric shapes using a net by: <ul style="list-style-type: none"> Cutting along the bold lines Folding along the dotted lines Keeping the tabs the correct size Making crisp folded edges Constructing the net using glue to make a geometric shape I can construct my castle to meet the requirements of my brief by: <ul style="list-style-type: none"> -making neat 3D shapes using nets 	<ul style="list-style-type: none"> I can make a variety of different frame structures. I know what the structure (pavilion) is used for. I understand how to make a stable structure I can build a free-standing structure I can select appropriate materials to build a strong structure I know how to reinforce corners to strengthen my structure I refer to my design sheet to create my pavilion 		<ul style="list-style-type: none"> I can build play apparatus structures using the techniques demonstrated as well as prior knowledge of structures I can measure, mark, cut and shape wood to create a range of structures I can use a range of materials to reinforce and add decoration to my structures I can attach structures to a base, reinforcing the join where necessary

				<ul style="list-style-type: none"> -stacking shapes and recyclable materials to make the structures of my castle -creating a castle base to secure my structures to -adorning my castle with facades and other decorative features 	<ul style="list-style-type: none"> • I can select appropriate materials for my cladding • I can add cladding which reflects my design • I can create different textural effects with my chosen material 		<ul style="list-style-type: none"> • I can consider the surrounding environment of my playground • I can create landscape features using a range of materials
Evaluate		<ul style="list-style-type: none"> • I can evaluate my windmill according to the design criteria • I can test whether my structure is strong and stable and reinforce it if necessary • I can test whether my turbine turns in the structure and alter the parts if it doesn't • I can test whether my turbine turns freely in the wind/when blown on 	<ul style="list-style-type: none"> • I can evaluate my structure according to the design criteria 	<ul style="list-style-type: none"> • I can evaluate my work and the work of others 			<ul style="list-style-type: none"> • I can test and adapt my design to improve it • I can identify what makes a successful structure
Knowledge		<ul style="list-style-type: none"> • I know what a windmill is • I can describe the purpose of structures • I understand what a net is • I know that that the shape of materials can be changed to improve the strength and stiffness of structures • I know that cylinders are a strong type of structure that are often used for windmills and lighthouses • I understand that windmill turbines use wind to turn and make the machines inside work • I know that axles are used in structures and mechanisms to make 	<ul style="list-style-type: none"> • I can identify natural and man-made structures • I understand what is meant by stability and can identify when a structure is more or less stable than another • I know that shapes and structures with wide, flat bases or legs are the most stable • I know the meaning of the words strength, stiffness and stability • I know there are different ways paper can be folded to improve its strength and stiffness 	<ul style="list-style-type: none"> • I can identify different features of castles. • I can explain why a castle needs to be strong and stable. • I know the features of a castle • I know that a net is what a 3D shape would look like if it were opened out flat 	<ul style="list-style-type: none"> • I know that different materials can create different effects 		<ul style="list-style-type: none"> • I know that there are different types of structures used in playground apparatus • I can consider how the structures can be used • I know that structures can be strengthened by manipulating materials and shapes

		parts turn in a circle					
Mechanisms/ Mechanical systems		<i>SAL: Exploring sliders and movements</i> <i>Fairground Wheel</i>	<i>Making a moving monster</i>	<i>SAL: Exploring pneumatics</i>	<i>Making a slingshot car</i>	<i>Making a pop up book</i>	
Design		<ul style="list-style-type: none"> • I can design and label a working wheel • I can communicate my ideas to someone else • I can select appropriate materials for my wheel 	<ul style="list-style-type: none"> • I can help devise whole-class design criteria for what our moving monster should do • I can think of two of my own points to add to the class Design Criteria • I can draw two moving monster designs that meet all points of my Design Criteria • My design includes the linkage I will use to make my monster move 		<ul style="list-style-type: none"> • I understand that car designs have developed over many years • I can design a suitable car body to cover my chassis by: <ul style="list-style-type: none"> • Drawing a net to create a structure from • Choosing shapes that increase or decrease the speed of the car as a result of air resistance • Adding graphics to personalise my design 	<ul style="list-style-type: none"> • I can design a book made up of a front cover and four pages and include a mixture of structures and mechanisms within it 	
Make		<ul style="list-style-type: none"> • I can create moving models that use sliders • I can build a stable structure • I can test elements of my design • I can adapt my design as necessary • I know how to make the wheel rotate • I know how to ensure that my pod stays upright whilst being rotated around a fixed point 	<ul style="list-style-type: none"> • I know how to make linkages by connecting levers and pivots • I know that materials can be selected according to their characteristics • I can design and make the features of my monster 		<ul style="list-style-type: none"> • I can make the body of my car by: <ul style="list-style-type: none"> • Remembering that nets are flat shapes that can be turned into 3D structures • Measuring, marking and cutting the panels (nets) against the dimensions of my chassis • Including tabs on my net so I can secure it to the panels of my chassis • Decorating the panels • I can assemble the panels of the body to the chassis correctly 	<ul style="list-style-type: none"> • I can use paper, card and glue to make my book structure • I can make mechanisms and/or structures as detailed in my design template by using sliders, pivots and folds to produce movement • I can complete the mechanisms and structures as detailed in my design template • I can make my book look neater and more attractive by using layers using spacers to hide relevant parts of my mechanisms • I can complete the surface decoration of my pop-up book by adding the story 	

						through: <ul style="list-style-type: none"> • Pictures • Captions 	
Evaluate		<ul style="list-style-type: none"> • I can evaluate different designs • I can evaluate a wheel mechanism and adapt as necessary 	<ul style="list-style-type: none"> • I can evaluate how functional my monster is and whether it meets the Design Criteria 		<ul style="list-style-type: none"> • I can evaluate the speed of my design based on the understanding that some cars are faster than others as a result of: <ul style="list-style-type: none"> • Body shape • Stored energy in the elastic band • Accuracy of the angle in the chassis and axle 	<ul style="list-style-type: none"> • I know that I need to consider the preferences and needs of the user • I know that good quality making should be neat, accurate and securely assembled 	
Knowledge		<ul style="list-style-type: none"> • I understand that sliders are mechanisms • I know that sliders can make things move • I can use the words: up, down, left, right, vertical and horizontal to describe movement • I know how axles help wheels to move a vehicle • I understand the properties of different materials 	<ul style="list-style-type: none"> • I understand that mechanisms are a collection of moving parts that work together in a machine • I know that there is always an input and output in a mechanism • I can identify mechanisms in everyday objects • I understand that a lever is something that turns on a pivot • I understand that a linkage is a system of levers that are connected by pivots • I understand that linkages use levers and pivots to create motion 	<ul style="list-style-type: none"> • I know that mechanisms are a system of parts that work together to create motion • I know that a pneumatic system can be used as part of a mechanism • I know that pneumatic systems are used in a range of everyday objects • I know that a pneumatic system can force air over a distance to create movement 	<ul style="list-style-type: none"> • I know that a chassis is the frame of a car on which everything else is built • I know that all moving things have kinetic energy • I know that kinetic energy is the energy that something (an object or person) has by being in motion, eg: the energy that a swing has to keep on moving; any object in motion is using kinetic energy • I can remember that smaller shapes create less air resistance and can move faster through the air 	<ul style="list-style-type: none"> • I can remember that: <ul style="list-style-type: none"> • an input is the motion used to start a mechanism • an output is the motion that happens as a result of starting the input • I know that structures use the movement of the pages to work • I know that mechanisms control movement 	
<i>Textiles</i>			<i>Puppets</i>	<i>SAL: cross stitch and applique</i>	<i>SAL: Evaluating fastenings</i>		<i>Waistcoats</i>
Design			<ul style="list-style-type: none"> • I can design a puppet • I can build my design on a template 				<ul style="list-style-type: none"> • I can annotate my designs • I can design clothing to a set of design criteria • I can explain the differences between my

							design and the template
Make			<ul style="list-style-type: none"> • I can join fabrics together • I can align two pieces of fabric • I know how to use a template • I can fit my hand into my puppet • I can use joining methods to decorate my puppet • I can still put my hand into the puppet after it is decorated 	<ul style="list-style-type: none"> • I can use cross stitch • I know how to appliqué 			<ul style="list-style-type: none"> • I can accurately mark out the outline of the panels for my waistcoat • I can cut neatly and accurately • I can sew a strong running stitch • I can make sure my stitches and small, neat and follow the edge • I can tie strong knots to secure the thread in place • I can secure a fastening • I can attach objects for decoration using thread
Evaluate			<ul style="list-style-type: none"> • I can evaluate mine and others' work 	<ul style="list-style-type: none"> • I can reflect on techniques used 	<ul style="list-style-type: none"> • I can say what the benefits of each fastening type are • I can say what the disadvantages of each fastening type are 		<ul style="list-style-type: none"> • I can evaluate my work according to the design criteria
Knowledge			<ul style="list-style-type: none"> • I can remember that different techniques may be used to join fabrics for different purposes • I know how to join fabric by pinning, stapling or glueing 		<ul style="list-style-type: none"> • I know what the main types of fastenings are 		
Cooking and Nutrition		<i>Fruit and vegetables</i>	<i>SAL: Hidden Sugars</i>	<i>Eating Seasonally</i>	<i>SAL: Following a recipe</i>	<i>What could be healthier?</i>	
Design		<ul style="list-style-type: none"> • I can suggest what fruits and/or vegetables are in a drink • I can make a choice as to what smoothie I will 		<ul style="list-style-type: none"> • I can design a filo tart using seasonal vegetables • I can describe my filo tart and the benefits of 		<ul style="list-style-type: none"> • I can write an amended method for my recipe to incorporate the relevant changes to ingredients • I can design appealing packaging that reflects 	

		make and why		its ingredients		my recipe	
Make		<ul style="list-style-type: none"> • I know how to prepare fruit and vegetables • I can use a knife to cut safely • I know how to use a blender • I can make a smoothie 		<ul style="list-style-type: none"> • I can use cooking equipment safely • I know how to prepare a kitchen to cook in • I know how to prepare myself in order to start cooking • I know the basic rules of food contamination • I can use, store and clean a knife safely • I can follow a recipe to make a tart 	<ul style="list-style-type: none"> • I can follow a recipe to make a biscuit 	<ul style="list-style-type: none"> • I can use equipment safely, including knives, hot pans and hobs • I know how to avoid cross-contamination • I can carefully follow a method to make a recipe • I know how to chop an onion 	
Evaluate					<ul style="list-style-type: none"> • I can evaluate a product and consider: <ul style="list-style-type: none"> • taste • smell • texture • appearance • packaging • target audience 	<ul style="list-style-type: none"> • I can calculate and compare two adapted bolognese recipes using a nutritional calculator • Based on this information I can decide which recipe is healthier 	
Knowledge		<ul style="list-style-type: none"> • I can name a number of fruits and vegetables • I know how to determine if something is a fruit • I understand that some foods we call vegetables are actually fruits • I can remember how to determine if a food is a fruit or a vegetable. • I know that fruits and vegetables grow in one of three places: <ul style="list-style-type: none"> ○ on trees or vines ○ above the ground ○ below the ground • I can taste fruits and vegetables and describe their: <ul style="list-style-type: none"> ○ appearance/feel ○ smell ○ taste 	<ul style="list-style-type: none"> • I know what 'hidden sugars' are • I know where to find the nutritional information on a drinks container • I know that there are five food groups, made up of: <ul style="list-style-type: none"> ○ fruit and vegetables ○ starchy carbohydrates ○ proteins ○ dairy ○ oils and spreads • I know roughly how much of each food group I should eat each day 	<ul style="list-style-type: none"> • I know that not all fruits and vegetables can be grown in the UK • I know that each country has its own climate • I understand that these climates enable different fruits and vegetables to grow • I can consider hygiene when preparing food • I know that imported food will have travelled from far away and has an impact on the environment • I know that vegetables and fruit grow in certain seasons and that in the UK we often import food from other 		<ul style="list-style-type: none"> • I know that beef is the name of meat from cattle (cows) • I know how beef is reared and processed • I have an understanding of the ethical issues around the way in which cattle should be farmed • I know what foods make up a balanced diet • I know how a recipe can be adapted to make it healthier • I can use keywords to research for alternative ingredients for a well-known dish • Based on my research I can suggest healthy 	

				<p>countries when it is not in season</p> <ul style="list-style-type: none"> • I know what foods are currently in season • I am aware that each fruit and vegetable gives us nutritional benefits 		<p>substitutions and additions to a recipe</p> <ul style="list-style-type: none"> • I know that the nutritional value of a recipe can change if you remove, substitute or add additional ingredients 	
Electrical Systems (KS2)					<i>Torches</i>	<i>Electronic Greetings Cards</i>	
Design					<ul style="list-style-type: none"> • I can identify the features of a torch • I understand how a torch works • I can say what is good and bad about different torches • I understand what is important in torch design • I can factor in who my product is for in my design criteria • I can design a torch which satisfies both the design and success criteria 	<ul style="list-style-type: none"> • I can write design criteria for an electronic greeting card. • I can draw a series circuit diagram and symbols. • I can explain how a series circuit will work in my card. • I can compile a moodboard relevant to my chosen theme, purpose and recipient • I can generate ideas inspired by research • I can annotate design ideas to include key information • I can review design ideas against design criteria 	
Make					<ul style="list-style-type: none"> • I can make a working circuit with a switch • I can use appropriate equipment to cut and attach materials • I can assemble a torch according to my design criteria • I can assemble a torch which satisfies the success criteria 	<ul style="list-style-type: none"> • I can construct a series circuit. • I can identify the negative and positive leg of an LED. • I can draw my series circuit as a diagram. • I can explain how my series circuit works in my card. 	

Evaluate					<ul style="list-style-type: none"> I can test my torch to evaluate its success 	<ul style="list-style-type: none"> I can analyse and evaluate a range of existing greeting cards. I can evaluate my final greeting card design 	
Knowledge					<ul style="list-style-type: none"> I can identify electrical products I know what electrical conductors and insulators are I know that a battery contains stored electricity and can be used to power products 	<ul style="list-style-type: none"> I can describe the historical development of personal message exchange. I can state what Sir Rowland Hill invented and why it was important for greeting cards. 	
Digital World (KS2)				Electronic Charm			Navigating the world
Design				<ul style="list-style-type: none"> I can problem solve by suggesting potential features on the Micro: bit and justifying my ideas I can identify the key features of a pouch I can develop design ideas for a technology pouch 			<ul style="list-style-type: none"> I can write a design brief from information submitted by a client I can develop design criteria to fulfil the client's request I can consider and suggest additional functions for my navigation tool. I can develop a product idea through annotated sketches
Make				<ul style="list-style-type: none"> I can write a program to control (button press) and/or monitor (sense light) to initiate a flashing LED algorithm. I understand what a loop is in programming I can explain the basic functionality of my eCharm program I can use a template when cutting and assembling the pouch I can draw and manipulate 2D shapes, using computer-aided 			<ul style="list-style-type: none"> I can program an N,E, S,W cardinal compass I can explain the key functions in my program, including any additions I can explain how my program fits the design criteria and how it would be useful as part of a navigation tool I can place and maneuver 3D objects, using computer-aided

				<p>design, to produce a point of sale badge</p>			<p>design.</p> <ul style="list-style-type: none"> I can change the properties of, or combine one or more 3D objects, using computer-aided design to produce a 3D CAD model.
<p>Evaluate</p>				<ul style="list-style-type: none"> I can analyse and evaluate an existing product I can follow a list of design requirements 			<ul style="list-style-type: none"> I can explain the key functions and features of my navigation tool I can explain my material choices and why they were chosen I can demonstrate a functional program* I can describe how my product fits the client's request and how it will benefit the customers
<p>Knowledge</p>				<ul style="list-style-type: none"> I can identify some key product developments that occurred as a result of the digital revolution I understand what is meant by 'point of sale display' 			<ul style="list-style-type: none"> I can consider materials and their functional properties I have an awareness of sustainability in design I identify key industries that utilise 3D CAD modelling and explain why.

