

## DT Progression Framework

### EYFS – Year A

UNIT	AUTUMN TERM – Junk Modelling	SPRING TERM – Boat Building	SUMMER TERM – Textile Bookmarks
<b>DISCIPLINARY KNOWLEDGE</b>	<ul style="list-style-type: none"> <li>- Making verbal plans and material choices</li> <li>- Developing a junk model</li> <li>- Improving fine motor/scissor skills with a variety of materials</li> <li>- Joining different materials together</li> <li>- Describing their junk model and how they intend to put it together.</li>   <li>- Evaluate – Giving verbal evaluation of their own and other' junk models with support.</li> <li>- Checking to see if their model matches their plan.</li> <li>- Considering what they would do differently if they were to do it again.</li> <li>- Describing their favourite and least favourite part of their model.</li> </ul>	<ul style="list-style-type: none"> <li>- Designing a junk model boat.</li> <li>- Using knowledge from exploration to inform design.</li> <li>- Making a boat that floats and is waterproof, considering material choices.</li> <li>- Making predictions about, and evaluating different materials to see if they are waterproof.</li> <li>- Making predictions about, and evaluating existing boats to see which floats best.</li> <li>- Testing their design and reflecting on what could have been done differently.</li> <li>- Investigating the how the shapes and structure of a boat affect the way it moves.</li> </ul>	<ul style="list-style-type: none"> <li>- Discussing what a good design needs.</li> <li>- Designing a simple pattern with paper</li> <li>- Designing a bookmark.</li> <li>- Choosing from available materials</li>   <li>- Making – developing fine motor/cutting skills with scissors</li> <li>- Exploring fine motor/threading and weaving (under/over technique) with a variety if different materials</li> <li>- Using prepared needle and wool to practise threading.</li>   <li>- Evaluating – reflecting on a finished product and comparing to their design.</li> </ul>
<b>SUBSTANTIVE KNOWLEDGE</b>	<ul style="list-style-type: none"> <li>- Technical – to know that there are a range of different materials that can be used to make a model and that they are all slightly different.</li> </ul>	<ul style="list-style-type: none"> <li>- To know that 'waterproof' materials are those which do not absorb water.</li> </ul>	<ul style="list-style-type: none"> <li>- To know that a design is a way of planning our idea before we start.</li> <li>- To know that threading is putting one material through an object.</li> </ul>

## KS1 – Year 1/2 - Year A

UNIT OF WORK	AUTUMN TERM – Windmills	SPRING TERM – Moving Story Book	SUMMER TERM - Puppets
<b>DISCIPLINARY KNOWLEDGE</b> <b>Design</b>	<ul style="list-style-type: none"> <li>- Learn the importance of clear design criteria.</li> <li>- Include visual preferences and requirements in a design.</li> </ul>	<ul style="list-style-type: none"> <li>- Designing a moving storybook for a given audience.</li> <li>- Explaining how to adapt mechanisms, using bridges or guides to control the movements.</li> </ul>	<ul style="list-style-type: none"> <li>- Use a template to create a design for a puppet.</li> </ul>
<b>Make</b>	<ul style="list-style-type: none"> <li>- Making stable structures from card tape and glue.</li> <li>- Following instructions to turn 2D nets into 3D structures.</li> <li>- Making functioning axles which are assembled into a main supporting structure.</li> </ul>	<ul style="list-style-type: none"> <li>- Make – following a design to create moving models that use levers and sliders.</li> </ul>	<ul style="list-style-type: none"> <li>- Make – cut fabric neatly with scissors.</li> <li>- Using joining methods to decorate a puppet.</li> <li>- Sequencing the steps taken during a construction</li> </ul>
<b>Evaluate</b>	<ul style="list-style-type: none"> <li>- Evaluating a windmill according to the design criteria, testing whether the structure is strong stable and altering it if it isn't.</li> <li>- Suggest points for improvements.</li> </ul>	<ul style="list-style-type: none"> <li>- Evaluate – Testing a finished product, if it moves as planned and if not considering why and how it can be fixed.</li> <li>- Reviewing the success of the interested audience.</li> </ul>	<ul style="list-style-type: none"> <li>- Evaluate – reflect on a finished product, explaining likes and dislikes.</li> </ul>
<b>SUBSTANTIVE KNOWLEDGE</b>	<ul style="list-style-type: none"> <li>- To understand that the shape of materials can be changed to improve the strength and stiffness of structures.</li> <li>- To understand the cylinders are a strong type of structure.</li> <li>- To understand that axles are used in structures and mechanisms to make parts turn in a circle.</li> <li>- To begin to understand that different structures are used for different purposes.</li> <li>- To know that a structure is something that has been made and put together.</li> <li>- To know that a client is the person I am designing for.</li> <li>- To know that design criteria is a list of points to ensure the product meets the clients wants and needs</li> </ul>	<ul style="list-style-type: none"> <li>- Technical Knowledge – To know that a mechanism is the parts of an object that move together.</li> <li>- To know that a slider mechanism moves an object from side to side.</li> <li>- To know that a slider mechanism has a slot, slider, guides, and an object.</li> <li>- To know that bridges are guides and are bits of card which limit the movement of the slider.</li> <li>- To know that in DT we call a plan 'a design'</li> </ul>	<ul style="list-style-type: none"> <li>- To know that 'joining technique' means connecting two pieces of material together.</li> <li>- To know that there are various temporary methods of joining fabric by using staples, glue, or pins.</li> <li>- To understand that different techniques for joining materials can be used for different purposes.</li> <li>- To understand that a template for a fabric pattern is used to cut out the same shape multiples of times.</li> <li>- To know that drawing a design idea is useful to see how an idea will look.</li> </ul>

## LKS2 – Year 3/4 – Year A

UNIT OF WORK	AUTUMN TERM – Constructing a Castle	SPRING TERM – Pneumatic Toys	SUMMER TERM – Electronic Charm
<b>DISCIPLINARY KNOWLEDGE</b>			
<b>Design</b>	<ul style="list-style-type: none"> <li>- Design a castle with clear features to appeal to a specific person or purpose.</li> <li>- Drawing and labelling a castle design by using 2D shapes, labelling the 3D shapes that will create the features – materials needed and colours.</li> <li>- Designing and/or decorating a castle tower on CAD software.</li> </ul>	<ul style="list-style-type: none"> <li>- Designing a toy which uses a pneumatic system.</li> <li>- Developing design criteria from a brief</li> <li>- Generating ideas using thumbnail sketches and exploded diagrams.</li> <li>- Learning that different types of drawings are used to explain ideas clearly.</li> </ul>	<ul style="list-style-type: none"> <li>- Problem solving by suggesting potential features on a micro bit, justifying new ideas.</li> <li>- Developing design ideas for a technology pouch</li> <li>- Drawing and manipulating 2D shapes using CAD to produce a point-of-sale badge.</li> </ul>
<b>Make</b>	<ul style="list-style-type: none"> <li>- Make – construct a range of geometric shapes using nets.</li> <li>- Creating special features for individual designs</li> <li>- Making facades from a range of recycled materials,</li> </ul>	<ul style="list-style-type: none"> <li>- Make – create a pneumatic system to locate a desired motion.</li> <li>- Build a secure housing for a pneumatic system.</li> <li>- Using syringes and balloons to create different types of pneumatic system to make a functional and appealing toy.</li> <li>- Selecting materials for their functional and aesthetic characteristics</li> <li>- Manipulating materials to create effects by cutting creasing curling and folding.</li> </ul>	<ul style="list-style-type: none"> <li>- Make – use a template when cutting and assembling the pouch.</li> <li>- Following a list of design requirements</li> <li>- Selecting and using the appropriate tools and equipment for cutting joining shaping and decorating a foam pouch.</li> <li>- Applying functional features such as using foam to create soft buttons.</li> <li>- Writing a program to control (button press) and/or monitor (sense light) that will initiate a flashing LED algorithm.</li> </ul>
<b>Evaluate</b>	<ul style="list-style-type: none"> <li>- Evaluating own work and the work of others based on the original design.</li> <li>- Suggesting points for modification of the individual designs.</li> </ul>	<ul style="list-style-type: none"> <li>- Using the views of others to improve designs.</li> <li>- Testing and modifying the outcome suggesting improvements</li> <li>- Understanding the purpose of exploded diagrams through the eyes of a designer and their client.</li> </ul>	<ul style="list-style-type: none"> <li>- Analyse and evaluate an existing product.</li> <li>- Identifying the key features of a pouch.</li> </ul>
<b>SUBSTANTIVE KNOWLEDGE</b>	<ul style="list-style-type: none"> <li>- To understand that a wide flat based object is more stable.</li> <li>- To understand the importance of strength and stiffness in structures.</li> <li>- To know the different features of a castle and their purpose</li> <li>- To know that a net is a 2D shape that can become a 3D shape once assembled.</li> <li>- To know that a design specification is a list of success criteria for a product.</li> </ul>	<ul style="list-style-type: none"> <li>- To understand how pneumatic systems work</li> <li>- To understand that pneumatic systems can be part of a mechanism.</li> <li>- To know that pneumatic systems operate by drawing in releasing and compressing air.</li> <li>- To understand how sketches drawings and diagrams can be used to communicate ideas.</li> <li>- To know that exploded diagrams are used to show different parts of a product fit together.</li> <li>- To know that thumbnail sketches are small drawings to get ideas down quickly</li> </ul>	<ul style="list-style-type: none"> <li>- To understand that in programming, a 'loop' is code that repeats something again and again until it is stopped.</li> <li>- To know that a Micro bit is a pocket sized codable computer</li> <li>- To know what the 'Digital Revolution' is and features of some products that evolved</li> <li>- To know that in DT the term 'smart' means a programmed product.</li> <li>- To know the difference between analogue and digital technologies</li> <li>- To understand what is meant by 'point of sale display.</li> <li>- To know that CAD is computer aided design.</li> </ul>

## UKS2 – Year 5/6 – Year A

UNIT OF WORK	AUTUMN TERM – What could be healthier?	SPRING TERM – Playground Structures	SUMMER TERM – Pop up Books
<b>DISCIPLINARY KNOWLEDGE</b>			
<b>Design</b>	<ul style="list-style-type: none"> <li>- Adapting a traditional recipe, understanding that the nutritional value of a recipe alters if you remove, substitute, or add additional ingredients.</li> <li>- Writing an amended method for a recipe to incorporate the relevant changes to the ingredients.</li> <li>- Designing appealing packaging to reflect a recipe.</li> </ul>	<ul style="list-style-type: none"> <li>- Designing a playground featuring a variety of different structures, considering how the structures will be used, considering effective and ineffective designs.</li> </ul>	<ul style="list-style-type: none"> <li>- Designing a pop-up book which uses a mixture of structures and mechanisms.</li> <li>- naming each mechanism input and output accurately</li> <li>- Storyboarding ideas for a book.</li> </ul>
<b>Make</b>	<ul style="list-style-type: none"> <li>- Make – cutting and preparing vegetables safely.</li> <li>- Using equipment safely, including knives, hot pans, and hobs.</li> <li>- Knowing how to avoid cross contamination.</li> <li>- Following step by step method carefully to make a recipe.</li> </ul>	<ul style="list-style-type: none"> <li>- Making – building a range of play structures drawing upon new and prior knowledge of structures</li> <li>- Measuring and marking and cutting wood to create a range of structures.</li> <li>- Using a range of materials to reinforce and add decoration to structures.</li> </ul>	<ul style="list-style-type: none"> <li>- Making – following a design brief to make a pop-up book, neatly and with focus on accuracy.</li> <li>- Making mechanisms and/or structures using sliders, pivots, and folds to produce movement.</li> <li>- Using layers and spacers to hide the workings of mechanical parts for an aesthetically pleasing result.</li> </ul>
<b>Evaluate</b>	<ul style="list-style-type: none"> <li>- Evaluate – to identify the nutritional differences between different products and recipes.</li> <li>- Identifying and describing healthy benefits of food groups.</li> </ul>	<ul style="list-style-type: none"> <li>- Evaluating – improving a design plan based on peer evaluation.</li> <li>- Testing and adapting a design to improve it as it is developed.</li> <li>- Identifying what makes a successful structure.</li> </ul>	<ul style="list-style-type: none"> <li>- Evaluating the work of other and receiving feedback on own work.</li> <li>- Suggesting points for improvement.</li> </ul>
<b>SUBSTANTIVE KNOWLEDGE</b>	<ul style="list-style-type: none"> <li>- To understand where meat comes from – learning that beef is from cattle and how beef is reared and processed including key welfare issues.</li> <li>- To know that I can use nutritional calculators to see how healthy a food option is.</li> <li>- To understand that cross-contamination means bacteria and germs have been passed onto ready to eat foods and it happens when these foods mix with raw meat or unclean objects.</li> </ul>	<ul style="list-style-type: none"> <li>- To know that structures can be strengthened by manipulating materials and shapes.</li> <li>- To understand what a footprint plan is.</li> <li>- To understand that unit the real world, design can impact users in positive and negative ways,</li> <li>- To know that a prototype is a chap model to test a design idea.</li> </ul>	<ul style="list-style-type: none"> <li>- To know that mechanisms control movement</li> <li>- To understand the mechanisms can be used to change one kind of motion into another.</li> <li>- To understand how to use sliders, pivots, and folds to create paper-based mechanisms.</li> <li>- To know that a design brief is a description of what I am going to design and make.</li> <li>- To know that designers often want to hide mechanisms to make a product aesthetically pleasing.</li> </ul>