



# Overdale Community Primary School

## DT Skills Progression

	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
Structures	<p><b>EAD: Creating with Materials Design</b> Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p> <p>Share their creations, explaining the process they have used.</p> <p>Different materials have different 'properties' and how this influences the creation process i.e. recognise card is stronger than paper when creating a 3D structure.</p> <p><b>Make</b> Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design,</p>	<p><b>Design</b> • Learning the importance of a clear design criteria. • Including individual preferences and requirements in a design.</p> <p><b>Make</b> • Making stable structures from card, tape and glue. • Learning how to turn 2D nets into 3D structures. • Following instructions to cut and assemble the supporting structure of a windmill. • Making functioning turbines and axles which are assembled into a main supporting structure.</p> <p><b>Evaluate</b> • Evaluating a windmill according to the design criteria, testing whether the structure is strong and stable and altering it if it isn't</p> <ul style="list-style-type: none"> <li>• Suggest points for improvements</li> </ul>	<p><b>Design</b> Generating and communicating ideas using sketching and modelling.</p> <p>Learning about different types of structures, found in the natural world and in everyday objects.</p> <p><b>Make</b> Making a structure according to design criteria.</p> <p>Creating joints and structures from paper/card and tape.</p> <p>Building a strong and stiff structure by folding paper.</p> <p><b>Evaluate</b> Exploring the features of structures.</p> <p>Comparing the stability of different shapes.</p> <p>Testing the strength of own structures.</p>	<p><b>Design</b> Designing a castle with key features to appeal to a specific person/purpose.</p> <p>Drawing and labelling a castle design using 2D shapes, labelling: - the 3D shapes that will create the features - materials needed and colours.</p> <p>Designing and/or decorating a castle tower on CAD software.</p> <p><b>Make</b> Constructing a range of 3D geometric shapes using nets.</p> <p>Creating special features for individual designs.</p> <p>Making facades from a range of recycled materials.</p>	<p><b>Design</b> Designing a stable pavilion structure that is aesthetically pleasing and selecting materials to create a desired effect.</p> <p>Building frame structures designed to support weight.</p> <p><b>Make</b> Creating a range of different shaped frame structures.</p> <p>Making a variety of free-standing frame structures of different shapes and sizes.</p> <p>Selecting appropriate materials to build a strong structure and cladding.</p> <p>Reinforcing corners to</p>		<p><b>Design</b> Designing a playground featuring a variety of different structures, considering how the structures will be used, considering effective and ineffective designs.</p> <p><b>Make</b> Building a range of play apparatus structures drawing upon new and prior knowledge of structures.</p> <p>Measuring, marking and cutting wood to create a range of structures.</p> <p>Using a range of materials to reinforce and add decoration to structures.</p> <p><b>Evaluate</b> Improving a design plan based on peer evaluation.</p>



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	<p>texture, form and function.</p> <p>Share their creations, explaining the process they have used.</p> <p>How to make a simple diva lamp, bird feeders and treasure boxes</p> <p>Use a range of tools competently, safely and confidently e.g. pencils for drawing and writing, paintbrushes, scissors, knives, forks and spoons</p> <p>Join materials together to make a simple structure</p> <p><b>Evaluate</b> Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p> <p>Share their creations, explaining the process they have used</p>	<p>Identifying the weakest part of a structure.</p> <p>Evaluating the strength, stiffness and stability of own structure.</p>	<p><b>Evaluate</b> Evaluating own work and the work of others based on the aesthetic of the finished product and in comparison to the original design.</p> <p>Suggesting points for modification of the individual designs.</p>	<p>strengthen a structure.</p> <p>Creating a design in accordance with a plan.</p> <p>Learning to create different textural effects with materials.</p> <p><b>Evaluate</b> Evaluating structures made by the class.</p> <p>Describing what characteristics of a design and construction made it the most effective.</p> <p>Considering effective and ineffective designs.</p>	<p>Testing and adapting a design to improve it as it is developed.</p> <p>Identifying what makes a successful structure.</p>
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<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>Mechanisms / Mechanical systems</b></p>	<p><b>EAD: Creating with materials</b></p> <p>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p> <p>Share their creations, explaining the process they have used.</p> <p>Split pins can be used to create 'moving parts' to their creations.</p>		<p><b>Design</b> Selecting a suitable linkage system to produce the desired motion.</p> <p>Creating a class design criteria for a moving monster.</p> <p>Designing a moving monster for a specific audience in accordance with a design criteria.</p> <p>Designing a wheel.</p> <p><b>Make</b> Selecting materials according to their characteristics.</p> <p>Following a design brief.</p> <p>Making linkages using card for levers and split pins for pivots.</p> <p>Experimenting with linkages adjusting the widths, lengths and thicknesses of card used.</p> <p>Cutting and assembling components neatly.</p>		<p><b>Design</b> Designing a shape that reduces air resistance.</p> <p>Drawing a net to create a structure from.</p> <p>Choosing shapes that increase or decrease speed as a result of air resistance.</p> <p>Personalising a design.</p> <p><b>Make</b> Measuring, marking, cutting and assembling with increasing accuracy.</p> <p>Making a model based on a chosen design.</p> <p><b>Evaluate</b> Evaluating the speed of a final product based on: the effect of shape on speed and the accuracy of workmanship on performance.</p>	<p><b>Design</b> Designing a pop-up book which uses a mixture of structures and mechanisms.</p> <p>Naming each mechanism, input and output accurately.</p> <p>Storyboarding ideas for a book.</p> <p><b>Make</b> Following a design brief to make a pop up book, neatly and with focus on accuracy.</p> <p>Making mechanisms and/or structures using sliders, pivots and folds to produce movement.</p> <p>Using layers and spacers to hide the workings of mechanical parts for an aesthetically pleasing result.</p> <p><b>Evaluate</b></p>	
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			<p><b>Evaluate</b> Evaluating different designs.</p> <p>Testing and adapting a design.</p> <p>Evaluating own designs against design criteria.</p> <p>Using peer feedback to modify a final design.</p>			<p>Evaluating the work of others and receiving feedback on own work.</p> <p>Suggesting points for improvement.</p>	
<p><b>Electrical Systems (KS2)</b></p>					<p><b>Design</b> Designing a torch, giving consideration to the target audience and creating both design and success criteria focusing on features of individual design ideas.</p> <p><b>Make</b> Making a torch with a working electrical circuit and switch.</p> <p>Using appropriate equipment to cut and attach materials. Assembling a torch according to the design and success criteria.</p>	<p><b>Design</b> Identifying factors that could be changed on existing products and explaining how these would alter the form and function of the product.</p> <p>Developing design criteria based on findings from investigating existing products. Developing design criteria that clarifies the target user. Make Altering a product's form and function by</p>	



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					<p><b>Evaluate</b> Evaluating electrical products.</p> <p>Testing and evaluating the success of a final product.</p>	<p>tinkering with its configuration.</p> <p>Making a functional series circuit, incorporating a motor.</p> <p>Constructing a product with consideration for the design criteria.</p> <p>Breaking down the construction process into steps so that others can make the product.</p> <p><b>Evaluate</b> Carry out a product analysis to look at the purpose of a product along with its strengths and weaknesses.</p> <p>Determining which parts of a product affect its function and which parts affect its form.</p> <p>Analysing whether changes</p>	
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						<p>in configuration positively or negatively affect an existing product.</p> <p>Peer evaluating a set of instructions to build a product.</p>	
<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>Cooking and Nutrition</b></p>	<p><b>EAD: Creating with materials</b></p> <p>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Share their creations, explaining the process they have used.</p> <p>The terms 'healthy' and 'unhealthy'.</p> <p>Vegetables and fruit help to keep us 'healthy'.</p> <p><u>PD: Fine motor</u> Use a range of small tools, including scissors, paintbrushes and cutlery.</p>	<p><b>Design</b> Designing smoothie carton packaging by-hand.</p> <p><b>Make</b> Chopping fruit and vegetables safely to make a smoothie.</p> <p>Juicing fruits safely to make a smoothie.</p> <p><b>Evaluate</b> Tasting and evaluating different food combinations.</p> <p>Describing appearance, smell and taste. Suggesting information to be included on packaging.</p> <p>Comparing their own smoothie with someone else's.</p>		<p><b>Design</b> Designing a recipe for a savoury tart.</p> <p><b>Make</b> Following the instructions within a recipe. Tasting seasonal ingredients. Selecting seasonal ingredients. Peeling ingredients safely. Cutting safely with a vegetable knife.</p> <p><b>Evaluate</b> Establishing and using design criteria to help test and review dishes. Describing the benefits of seasonal fruits and vegetables and the impact on the environment. Suggesting points for improvement</p>		<p><b>Design</b> Adapting a traditional recipe, understanding that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients.</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>Researching existing recipes to inform ingredient choices.</p>	



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Textiles				when making a seasonal tart.		<p><b>Make</b></p> <p>Cutting and preparing vegetables safely.</p> <p>Using equipment safely, including knives, hot pans and hobs.</p> <p>Knowing how to avoid cross-contamination.</p> <p>Following a step by step method carefully to make a recipe.</p> <p><b>Evaluate</b></p> <p>Identifying the nutritional differences between different products and recipes.</p> <p>Identifying and describing healthy benefits of food groups.</p>	
		<p><b>Design</b></p> <p>Using a template to create a design for a puppet.</p> <p><b>Make</b></p>					<p><b>Design</b></p> <p>Designing a waistcoat in accordance to a specification linked to set of</p>



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		<p>Cutting fabric neatly with scissors.</p> <p>Using joining methods to decorate a puppet.</p> <p>Sequencing the steps taken during construction</p> <p><b>Evaluate</b> Reflecting on a finished product, explaining likes and dislikes.</p>					<p>design criteria.</p> <p>Annotating designs, to explain their decisions.</p> <p><b>Make</b> Using a template when cutting fabric to ensure they achieve the correct shape.</p> <p>Using pins effectively to secure a template to fabric without creases or bulges.</p> <p>Marking and cutting fabric accurately, in accordance with their design.</p> <p>Sewing a strong running stitch, making small, neat stitches and following the edge.</p> <p>Tying strong knots.</p> <p>Decorating a</p>
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							<p>waistcoat, attaching features (such as appliqué) using thread.</p> <p>Finishing the waistcoat with a secure fastening (such as buttons).</p> <p>Learning different decorative stitches.</p> <p>Sewing accurately with evenly spaced, neat stitches.</p> <p><b>Evaluate</b> Reflecting on their work continually throughout the design, make and evaluate process.</p>
<p><b>Digital World</b> <b>(KS2)</b></p>				<p><b>Design</b> Problem solving by suggesting which features on a micro:bit might be useful and justifying my ideas.</p> <p>Drawing and manipulating 2D shapes, using computer-aided design, to produce</p>			<p><b>Design</b> Writing a design brief from information submitted by a client</p> <p>Developing design criteria to fulfil the client's request</p> <p>Considering and suggesting additional functions for my navigation tool</p>



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				<p>a point of sale badge.</p> <p>Developing design ideas through annotated sketches to create a product concept.</p> <p>Developing design criteria to respond to a design brief.</p> <p><b>Make</b> Following a list of design requirements.</p> <p>Writing a program to control (button press) and/or monitor (sense light) that will initiate a flashing LED algorithm.</p> <p><b>Evaluate</b> Analysing and evaluating wearable technology.</p> <p>Using feedback from peers to improve design.</p>			<p>Developing a product idea through annotated sketches</p> <p>Placing and manoeuvring 3D objects, using CAD</p> <p>Changing the properties of, or combine one or more 3D objects, using CAD</p> <p><b>Make</b> Considering materials and their functional properties, especially those that are sustainable and recyclable (for example, cork and bamboo)</p> <p>Explaining material choices and why they were chosen as part of a product concept</p> <p>Programming an N,E, S,W cardinal compass</p> <p><b>Evaluate</b> Explaining how my program fits the design criteria and how it would be useful as part of a navigation tool</p>
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								<p>Developing an awareness of sustainable design</p> <p>Identifying key industries that utilise 3D CAD modelling and explain why</p> <p>Describing how the product concept fits the client's request and how it will benefit the customers</p> <p>Explaining the key functions in my program, including any additions</p> <p>Explaining how my program fits the design criteria and how it would be useful as part of a navigation tool</p> <p>Explaining the key functions and features of my navigation tool to the client as part of a product concept pitch</p> <p>Demonstrating a functional program</p>
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