



Leavesden JMI School & Nursery Curriculum

Design & Technology

Intent of the D&T Curriculum: At Leavesden, children understand that D&T is an inspiring, rigorous, challenging and practical subject where they are expected to use creativity and imagination to solve real-life, relevant problems within a range of contexts. Children will be taught to recognise, select and apply the correct tools safely and effectively in making a product after a rigorous design process and will be encouraged to consider the effectiveness of their designs and requirements of the product.

The Leavesden Curriculum is designed to allow children the opportunity to:

1. produce creative work, exploring their ideas, the work of others and record their experiences
2. become proficient in planning, designing, creating, making and design techniques
3. evaluate and analyse creative works using the language of design and technology
4. know about great designers, architects, chefs, textile manufacturers and understand the historical and cultural development of these forms.

Skills for success - The 10 key words for our curriculum are:

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Cooking and Nutrition

	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
<i>Context</i>	Fruit Skewers	Fruit & Vegetable Smoothie	A Balanced Diet - It's a wrap!	Eating Seasonally - Tart it up!	Adapting a Recipe - It takes the biscuit!	Healthy Choices - Getting Saucy!	Come Dine With Me - Making a meal of it!
<i>Knowledge Development & Skill Development</i>	<p>Learning how to determine if a food is a fruit or a vegetable and naming some of each.</p> <p>Tasting and comparing fruits and vegetables, describing their: appearance, feel and smell and selecting fruits and vegetables for a skewer (could be cooked over the fire pit).</p> <p>Preparing their skewer using precut items, cutting some of their own using a knife.</p>	<p>Naming fruits and vegetables and explaining why they are a fruit or a vegetable.</p> <p>Describing basic characteristics of fruits and vegetables.</p> <p>Preparing fruits and vegetables to make a smoothie, using a knife to cut and slice safely and learning to use a blender.</p>	<p>Learning what makes a balanced diet and that there are five food groups, identifying foods that belong to each group.</p> <p>Identifying the correct food group of a given food and describing its taste, texture and aroma.</p> <p>Carefully considering combinations that include complementary flavours and textures and justifying this.</p> <p>Making a wrap that meets the design brief and plan and that has been adapted where necessary, eg: the size</p>	<p>Explaining that fruits and vegetables grow in different countries based on their climates.</p> <p>Understanding that 'seasonal' fruits and vegetables are those that grow in a given season and taste best then and that eating seasonal fruit and vegetables has a positive effect on the environment.</p> <p>Designing a recipe for a tart, using seasonal ingredients considering the taste, texture, aroma and appearance of the dish.</p> <p>Understanding the basic rules of hygiene and safety when working with food and following the</p>	<p>Following a recipe and measuring ingredients accurately with reference to scale intervals. Describing the features of a biscuit based on taste, smell, texture and appearance. An understanding of who the biscuit might be aimed at (market) based on these features.</p> <p>Adapting a recipe by adding extra ingredients to it and explaining those adaptations.</p> <p>Planning a biscuit within budget.</p> <p>Making a biscuit that has a clear target audience. Creating packaging that</p>	<p>Considering the ethical issues around farming and how cattle are kept. Using The Internet to research further relevant information and create a poster for 'Farm to Fork'.</p> <p>Explain what a 'healthy meal' means. Identifying the nutritional differences between different products and recipes</p> <p>Recognising nutritional differences between two similar recipes and giving some justification as to why this is.</p> <p>Working as a team to amend a bolognese recipe with healthy adaptations.</p>	<p>Finding a suitable recipe for a given course and recording the relevant ingredients and equipment needed to make it. Understanding the combinations of food that will complement one another.</p> <p>For all 3 courses:</p> <ul style="list-style-type: none"> - Following a recipe, including using the correct quantities of each ingredient. - Writing a recipe: explaining the process taken. - Explaining where certain key foods come from before they appear on the supermarket shelf.

			of the ingredients in the wrap	instructions within a recipe.	complements the biscuit's design	Following a recipe to produce a healthy bolognese sauce, chopping an onion as shown and designing packaging that promotes the ingredients of the bolognese.	
<i>Building on from...</i>	The children will have had different levels of exposure to tastes and textures at home - there will, undoubtedly, already be some fussiness. The children's awareness of fruit and vegetables will vary, so this will need addressing.	In EYFS the children will have been exposed to a range of fruit and vegetables and be able to identify and categorise them.	In EYFS and Year 1 the children focused on developing knowledge of fruit and vegetables. In Year 1 the children cut and prepared fruit/vegetables for a smoothie - the skills for which will be built on this year,	In Year 2 the children considered flavour combinations and how different textures enhanced or detracted from food. In Year 2 the children also considered how to follow a design brief and how to make adaptations, such as the size of food cut.	In Year 3 the children focused on seasonality and provenance as well as designing a recipe, taking these things into account.	In Year 2 the children considered a balanced diet. In LKS2 the children looked at seasonality and provenance to design recipes (3), as well as how to adapt a recipe, including within a budget (4).	All years have been built to Year 6 as the children should understand a healthy diet, food nutrition, hygiene, provenance and seasonality, as well as budgeting.
<i>Moving onto...</i>	The children will be exploring flavours in Year 1 with smoothies and will also be expected to use knives to prepare their own fruit and vegetables.	In Year 2 the children will be exposed to the other food groups and be able to design their own wrap. In Year 3 the children will consider the seasonality of fruit and vegetables.	In Year 3 the children will again focus on fruit and vegetables, considering their seasonality and provenance. In Year 3 food hygiene will be more of a focus.	In Year 4 the children will pay greater regard to a recipe, for example considering the budget they have. In Year 4 the children will be expected to make justified choices for adaptations for flavour and ingredients..	In Year 5 the children will consider making healthy meal choices, taking account of the nutritional value of foods. The children will also begin to consider packaging and design for a product.	In Year 6 the children will be expected to apply all of their knowledge to be able to design a 3 course meal.	In KS3 the children will (usually) have Food Tech as part of their technology option. The children will be able to use the specialist technology rooms, so exposure to the children's kitchen will prove invaluable.
<i>Tier 3 Technical Language</i>	Appearance Compare Feel Fruit Skewer Smell Taste Vegetables	Blender Categorise Characteristics Cut Identify Slice Smoothie	Adapt Aroma Balanced diet Design brief Food groups Ingredients Taste Texture Wrap	Environment Food safety Hygiene Provenance Recipe Savoury Seasonality Sweet Tart	Biscuit Budget Complements Design Features Market Packaging	Bolognese Ethical farming Healthy choices Nutritional value Sauce	Combinations Plating Suitable Three course meal
<i>Key People</i>	Raymond Blanc (Provenance and Seasonality) Angela Hartnett (Italian cooking) Nadiya Hussain (Bake Off winner - biscuits) Nathan Outlaw (ethical/ sustainable cooking) Clare Smith (1st Female 3* Michelin Chef) Tom Kerridge/ Jamie Oliver (Familiar faces from TV - both focus on healthy eating)						

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Construction

This unit works well with children's books/ stories as a stimuli

	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
<i>Context</i>	Structures <i>Look at that building</i>	Windmills <i>Willie the Windmill</i>	Baby Bear's Chair <i>Goldilocks</i>	Castles <i>Usborne See Inside Castle</i>	Pavilions <i>Iggy Peck & The Mysterious Mansion</i>	Bridges <i>Rosie Revere Engineer</i>	Playgrounds <i>Iggy Peck Architect</i>
<i>Knowledge Development & Skill Development</i>	<p>Describing the purpose of a given structure and including individual preferences and requirements within a design.</p> <p>Making a stable structure - following instructions.</p> <p>Knowing that the shape of materials can be changed to improve the strength and stiffness of structures and that cylinders are a strong type of structure.</p> <p>Evaluating the structure according to the design criteria,</p>	<p>Identifying and articulating some features and a design that would appeal to the character within a given story.</p> <p>Making strong and stable structures from card, tape and glue which will eventually support the turbine.</p> <p>Articulating historical and contemporary uses of windmills and cutting and assembling components with accuracy.</p> <p>Making functioning turbines and axles which are assembled</p>	<p>Identifying man-made/natural structures.</p> <p>Contributing to discussions. Identifying stable and unstable structural shapes.</p> <p>Identifying features that make a chair stable.</p> <p>Explaining the definition of strength. Identifying the strongest and weakest shape and part of a structure. Making and testing a structure.</p> <p>Working independently to use the materials as demonstrated to begin to make a stable structure. Explaining</p>	<p>Drawing a simple castle that includes the most common features and labelling the drawing.</p> <p>Identifying specific details of the design, eg: materials, colours.</p> <p>Designing a castle in detail, incorporating basic features as well as other useful features specific to the person or purpose they're designing for.</p> <p>Constructing a range of 3D geometric shapes using a net by:</p> <ul style="list-style-type: none"> - Cutting along the bold lines. - Folding along the dotted lines. 	<p>Producing a range of free standing frame structures of different shapes and sizes.</p> <p>Designing a pavilion that is strong, stable and aesthetically pleasing, including a range of materials to create a desired effect.</p> <p>Selecting appropriate materials and construction techniques to create a stable, free-standing frame structure for the pavilion which clearly reflects the design.</p> <p>Experimenting with a wide range of materials and</p>	<p>Articulating the definition of 'tension and compression' and identifying stronger and weaker shapes and points where structures typically failed.</p> <p>Articulating the difference between beam, arch, truss and suspension bridges and making an accurate and well constructed truss bridge, explaining where some bridges are stronger or weaker than others.</p> <p>Independently measuring and marking out wood and using</p>	<p>Clearly communicating a wide range of imaginative ideas and more sophisticated use of structures in the designs, using own experiences and peer evaluation to improve them.</p> <p>Making roughly three different structures from their plans using the materials available.</p> <p>Completing their structures, improving on the quality of making and applying cladding to a few areas.</p> <p>Securing the apparatus to a base and making a range of landscape features from a</p>

	testing it's strength and stability and reinforcing it if necessary.	into the main supporting structure. Identifying what is good about the structure and what could be done better.	how their ideas would be suitable for the given brief. Producing a model that satisfies the given brief, using the appropriate materials and construction techniques and explaining how they made it strong, stiff and stable.	<ul style="list-style-type: none"> - Keeping the tabs the correct size. - Making crisp folded edges. - Gluing securely to assemble the geometric shape. <p>Building a complex structure from simple geometric shapes.</p> <p>Justify design decisions and identifying ways to improve own work.</p> <p>Evaluating own work and the work of others in relation to the original design.</p>	techniques to create and attach cladding which has strong links to the theme as well as creating a blend with the surrounding landscape.	correct techniques to cut it safely. Evaluating the success of the bridge, making improvements and reinforcements as necessary	range of materials which enhance the apparatus.
<i>Building on from...</i>	Before coming to school the children will have experienced LEgo/ Duplo and other opportunities to build and create.	In EYFS the children looked at how to construct a stable structure.	In Year 1 the children learned how to make strong and stable structures, considering how they could be improved.	In Year 2 the children learned to work from a specific design brief.	In Year 3 the children created designs from which to work and to be able to judge their final model against this design.	In Year 4 the children considered the aesthetics of their design, ensuring that their piece blended into the landscape.	In Year 5 the children considered the different ways in which to strengthen and improve a design, using reinforcements.
<i>Moving onto...</i>	In Year 1 the children will construct an object (windmill) for a purpose where assembly is required.	In Year 2 the children will operate from a design brief, testing their ideas before completing a model.	In Year 3 the children will begin to sketch designs before making them, evaluating the end product against their original designs.	In Year 4 the children will consider the aesthetics of their design and will experiment with materials.	In Year 5 the children will consider the concept of tension and compression, being able to evaluate and improve designs.	In Year 6 the children will be applying all of their previous learning to be able to design and make a range of pieces for a given brief.	In KS3 the children will (usually) have 'Resistant Materials' as part of their technology option. The children will be able to use the specialist technology rooms and equipment.
<i>Tier 3 Technical Language</i>	Cylinder Design Evaluate Preference Purpose Stability Strength Structure Test	Assemble Axles Components Contemporary Features Historical Support Structure Turbines	Design brief Explain Man-made structures Model Natural structures Stiff Strength Techniques	3D shapes Complex structure Geometric shapes Justify Sketch Specific	Aesthetics Blend Cladding Effect Frame structure Free standing Landscape Pavilion Plan	Arch Beam Bridge Compression Reinforcements Suspension Bridge Tension Truss	Apparatus Imaginative Sophisticated
<i>Key People</i>	Norman Foster (The Gherkin, Millennium Bridge) Zaha Hadid (Female, British Iraqi) Santiago Calatrava (Spanish designer of sculptural bridges and buildings)						

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Textiles

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<i>Context</i>	Square Patterns	Puppets	Pouches	Cushions	Fastenings	Stuffed Toys	Waistcoats
<i>Knowledge Development & Skill Development</i>	<p>Joining fabrics together using different techniques; pinning, stapling and taping or gluing.</p> <p>Using a template to cut out fabrics.</p> <p>Joining two fabrics together carefully and accurately.</p> <p>To embellish a design using joining methods.</p>	<p>Joining fabrics together using staples, pins or glue, deciding which method is most suited for their desired outcome.</p> <p>Designing a puppet that reflects a chosen character and using a template, cutting with accuracy.</p> <p>Joining the two puppets' faces together as one, aligning the two pieces of fabric.</p> <p>Adapting a design to decorate a puppet so that it represents a chosen character which features a range and/or quality of joining</p>	<p>Threading a needle, sewing a straight running stitch with evenly sized stitches and understanding that both ends of the thread must be knotted.</p> <p>Preparing and neatly cutting the fabric, pinning the fabric accurately and designing a pouch.</p> <p>Sewing a running stitch to join the two pieces of fabric together.</p> <p>Decorating the pouch using the materials provided to accurately replicate the design plan.</p>	<p>Using a neat and considered cross stitch to join an appliqué patch to another fabric and attempt reverse appliqué.</p> <p>Designing a cushion, considering how the different elements will work together and neatly cutting the template for a cushion.</p> <p>Using cross stitch and appliqué to decorate a cushion face.</p> <p>Making a cushion that includes appliqué and cross stitch to closely match their design.</p>	<p>Identifying the features, benefits and disadvantages of a range of fastening types and to justify why one type may be more suitable than another type for a specific purpose.</p> <p>Writing design criteria and designing a sleeve that matches this criteria, including a fastening of some kind and explaining their choices.</p> <p>Making a template for a pencil case.</p> <p>Assembling the case, sewing with a stitch of their choosing.</p>	<p>Designing a stuffed toy considering the main component shapes required and creating an appropriate template.</p> <p>Joining two pieces of fabric using blanket stitch and neatly cutting out their fabric.</p> <p>Using appliqué or decorative stitching to decorate the front of the stuffed toy.</p> <p>Using blanket stitch to assemble the stuffed toy, repairing when needed and identifying what worked well as well as areas for improvement.</p> <p>Understand the huge amount of clothing</p>	<p>Considering a range of factors in their design criteria and creating a waistcoat design based on this, annotating the designs.</p> <p>Using a template to mark and cut out the panels for the waistcoat, neatly and accurately.</p> <p>Using a strong running stitch to join fabric to make a functional waistcoat and tying strong knots to secure the thread in place.</p> <p>Attaching a secure fastening, and decorative objects and evaluating the final product.</p>

		techniques used to decorate the puppet.				waste each year and the impact on the environment.	
<i>Building on from...</i>	The children will have experienced a range of textiles and there is an ideal opportunity to tap into the children's awareness (though probable lack of vocabulary) of toys/ clothes/ etc.	In EYFS the children experimented with a range of fabrics and methods of joining, also considering how to embellish their design.	In previous years the children were able to make decisions about embellishing and decorating their pieces. In Year 1 the children were able to make decisions about how to join materials.	In Year 2 the children learned to thread a needle and use a running stitch to join fabrics together.	In Years 2&3 the children learned to use running and cross stitches, working to a design brief.	In previous years the children have learned a range of stitches and techniques, including the best fastenings (Y4).	In previous years the learning has prepared the children for this year. They have learned a range of stitches and know how to create and cut out to a template.
<i>Moving onto...</i>	In Year 1 the children will join fabrics for a purpose (puppet) and will make decisions about the method of joining they will use.	In Year 2 the children will sew fabrics to be able to make the piece based on a given design.	In Year 3 the children will design their own product and learn the cross stitch, as well as applying an applique.	In Year 4 the children will explore a range of fastenings to suit different purposes.	In Year 5 the children will learn a blanket stitch and be expected to cut out fabric from a template for a specific purpose.	In Year 6 the children will be expected to apply all of the skills from their textiles curriculum to the design and assemble a final product.	In KS3 the children will (usually) have 'Textiles' as part of their technology option. The children will be able to use the specialist technology rooms and equipment, e.g. sewing machines.
<i>Tier 3 Technical Language</i>	Embellish Fabrics Gluing Joining Pinning Stapling Techniques	Align Character Decorate Outcome Puppet Range Suited	Design brief Evenly sized Pouch Replicate Running stitch Stitch Thread	Applique Cross stitch Cushion Patch Sketch	Benefits Criteria Disadvantages Fastenings Purpose Template	Assemble Blanket stitch Consumer Cutting out Repair	Annotate Consider Decorative Panels
<i>Key People</i>	Sir Terence Conran Cath Kidston Dame Zandra Rhodes						