



# Knowledge Progression in Design Technology

## Key Knowledge Area: Food and Nutrition

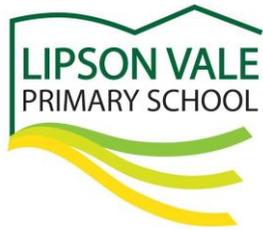
Throughout their school career, a Lipson Vale pupil will...

Foundation	Year One	Year Two	Year Three	Year Four	Year Five	Year Six
<p>Begin to understand and use senses.</p> <p>Understand the need for variety in food.</p> <p>Begin to understand healthy eating.</p> <p>Taste and experience a variety of foods.</p> <p>Understand how to be safe and hygienic with food.</p> <p>Begin to understand some food preparation tools, techniques and processes.</p> <p>Practise some basic cooking skills, such as stirring, mixing,</p>	<p>Use senses to describe the texture of foods.</p> <p>Understand that all food comes from plants or animals.</p> <p>Name and sort foods into the five groups (Eatwell Guide).</p> <p>Understand that everyone should eat at least five portions of fruit and vegetables every day.</p> <p>Knows to wash hands and clean surfaces before working with food.</p> <p>Design and make a healthy dish.</p>	<p>Describe properties of ingredients and the importance of a varied diet.</p> <p>Identify where food comes from (animal or plant).</p> <p>Understand that food has to be farmed, grown elsewhere (e.g. home) or caught.</p> <p>Explain where in the world different foods originate from and sample a range of foods from around the world.</p> <p>Explain the term 'five a day' and give examples. Explain hygiene and maintain a hygienic kitchen.</p> <p>Design and prepare dishes (linked to their</p>	<p>Start to understand seasonality; able to match foods to their growing season.</p> <p>Explain that a healthy diet is made up of a variety and balance of different food and drink.</p> <p>Explain how food and drink are needed for active/healthy bodies.</p> <p>Identify ways to cook safely and give examples of good hygiene practice for cooking.</p> <p>Understand how to prepare and cook a variety of predominantly savoury dishes.</p> <p>Plan and cook a variety of dishes, using</p>	<p>Start to know when, where and how food is grown in the UK, Europe and the wider world</p> <p>Understand ingredients can be fresh, pre-cooked or processed.</p> <p>Understand that to be active and healthy, nutritious food and drink are needed to provide energy for the body.</p> <p>Explain how to be safe and hygienic when working in a kitchen/with food.</p> <p>Prepare and cook dishes safely and hygienically.</p> <p>Start to independently follow a recipe.</p>	<p>Know, explain and give examples of food that is grown, reared and caught in the UK</p> <p>Understand about seasonality and how this may affect the food availability.</p> <p>Understand that food is processed into ingredients.</p> <p>Explain that foods contain different substances, such as protein, that are needed for health.</p> <p>Describe how recipes can be adapted to change appearance, taste, texture and aroma.</p> <p>Explain how to be safe/hygienic when working with food and follow own guidelines.</p>	<p>Know, explain and give examples of food that is grown, reared and caught in Europe and the Wider World.</p> <p>Explain and plan recipes according to seasonality.</p> <p>Learn about food processing methods.</p> <p>Describe some of the different substances in food and drink, and how they can affect health.</p> <p>Demonstrate how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.</p>



# Knowledge Progression in Design Technology

<p>pouring, blending and chopping.</p>	<p>Uses own creative ideas to decorate food.</p> <p>Practise cutting, peeling and grating, safely and with support.</p>	<p>knowledge of the Eatwell Guide).</p> <p>Practise cutting, peeling and grating with increasing confidence.</p>	<p>their knowledge of the Eatwell Guide.</p> <p>Prepare ingredients using appropriate cooking utensils.</p> <p>Measure and weigh ingredients to the nearest gram and millilitre.</p> <p>Use a range of techniques with growing confidence, such as peeling, chopping, slicing mashing, whisking, mixing, spreading, grating, kneading and baking.</p> <p>Use interesting ideas to make their product look attractive.</p>	<p>Use some of the following techniques: peeling, chopping, slicing mashing, whisking, mixing, spreading, grating, kneading and baking.</p> <p>With support, use a heat source to cook ingredients showing awareness of the need to control the temperature of the hob and/or oven.</p> <p>Design and create interesting ways to present their product.</p>	<p>Demonstrate how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.</p> <p>Measure accurately and calculate ratios of ingredients.</p> <p>Independently follow a recipe.</p> <p>Use the following techniques: peeling, chopping, slicing mashing, whisking, mixing, spreading, grating, kneading and baking.</p> <p>Demonstrate how to use a range of cooking techniques, such as griddling, grilling, frying and boiling.</p> <p>Present product well, ensuring that it looks interesting, attractive, and is fit for purpose.</p>	<p>Apply knowledge of food substances, such as gluten, to plan and prepare suitable and purposeful dishes.</p> <p>Adapt and refine recipes by adding or substituting one or more ingredients to change the appearance, taste, texture and aroma.</p> <p>Use the following techniques confidently: peeling, chopping, slicing mashing, whisking, mixing, spreading, grating, kneading and baking.</p> <p>Alter methods, cooking times and/or temperature/s.</p> <p>Present product well, ensuring that it looks interesting, attractive, and is fit for purpose.</p>
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# Knowledge Progression in Design Technology

## Key Knowledge Area: Design

Throughout their school career, a Lipson Vale pupil will...

Foundation	Year One	Year Two	Year Three	Year Four	Year Five	Year Six
<p>Select appropriate resources.</p> <p>Use gestures, discussion and arrangements of materials and components to show design.</p> <p>Use contexts set by the teacher and my own interests.</p> <p>Use language of designing and making (join, build, shape, longer, shorter, heavier etc.)</p>	<p>Form own design ideas.</p> <p>Explain what I want to do/create.</p> <p>Explain the purpose of the product, and how it will work.</p> <p>Use pictures and words to plan, and begin to use models.</p> <p>Design a product for myself, following a design criteria.</p> <p>Research similar existing products.</p>	<p>Form own design ideas and plan what to do next.</p> <p>Explain what I want to do/create and describe possible processes.</p> <p>Explain the purpose of the product, how it will work and how it will be suitable for the user.</p> <p>Describe design using pictures, words, models and diagrams, and begin to use ICT.</p> <p>Design products for myself and others, following a design criteria.</p> <p>Choose effective tools and materials, and explain choices.</p> <p>Use knowledge of existing products to produce ideas.</p>	<p>Begin to research others' needs/ideas.</p> <p>Show that design meets a range of requirements/criteria.</p> <p>Be able to describe the purpose of the product.</p> <p>Follow a given design criteria.</p> <p>Have at least one idea about how to create the product.</p> <p>Create a plan which shows order, equipment and tools required.</p> <p>Describe and explain design using an accurately labelled sketch and annotations.</p>	<p>Use research for design ideas.</p> <p>Show that the design meets a range of requirements and is fit for purpose.</p> <p>Begin to create own design criteria.</p> <p>Have at least one idea about how to create the product and suggest improvements for design.</p> <p>Produce a plan and explain it to others.</p> <p>Discuss how realistic the plan is.</p> <p>Include an annotated sketch in the design process. Make and explain design decisions considering</p>	<p>Use the internet and questionnaires for research and design ideas.</p> <p>Take a 'user's view' into account when designing.</p> <p>Begin to consider needs/wants of individuals/groups when designing.</p> <p>Ensure product is fit for purpose.</p> <p>Create own design criteria. Have a range of ideas for design.</p> <p>Produce a logical, realistic plan and explain it to others.</p> <p>Use cross-sectional planning and annotated sketches.</p>	<p>Draw on market research to inform design.</p> <p>Use research of user's individual needs, wants, requirements for design.</p> <p>Identify features of design that will appeal to the intended user.</p> <p>Create own design criteria and specifications.</p> <p>Come up with innovative design ideas.</p> <p>Follow and refine a logical plan.</p> <p>Use annotated sketches, cross-sectional planning and exploded diagrams.</p>



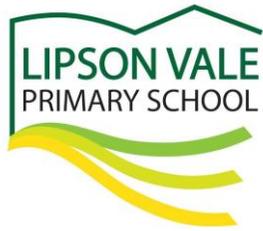
# Knowledge Progression in Design Technology

			<p>Make design decisions with some independence.</p> <p>Explain how the product will work.</p> <p>Make a prototype/model.</p> <p>Begin to use computer/ICT to show design.</p>	<p>availability of resources.</p> <p>Explain how the product will work.</p> <p>Make a prototype/model.</p> <p>Use computer/ICT to show design.</p>	<p>Make design decisions considering production time and resources.</p> <p>Clearly explain how parts of the product will work.</p> <p>Model and refine design ideas by making prototypes/models and using pattern pieces.</p> <p>Begin to use computer-aided designs.</p>	<p>Make design decisions, considering resources and costing.</p> <p>Clearly explain how parts of design will work, and how they are fit for purpose.</p> <p>Independently model and refine design ideas by making prototypes/models and using pattern pieces.</p> <p>Use computer-aided designs with greater independence and confidence.</p>
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## Key Knowledge Area: Make

Throughout their school career, a Lipson Vale pupil will...

Foundation	Year One	Year Two	Year Three	Year Four	Year Five	Year Six
<p>Construct with a purpose, using a variety of tools and resources.</p> <p>Use simple tools and techniques.</p>	<p>Explain what I'm making and the purpose.</p> <p>Consider what I need to do next.</p> <p>Select tools/equipment to</p>	<p>Explain what I am making and how/why it fits the purpose.</p> <p>Make suggestions as to what I need to do next.</p>	<p>Select suitable tools/equipment and explain choices.</p> <p>Begin to use tools/equipment accurately.</p>	<p>Select suitable tools and equipment and explain choices in relation to required techniques.</p> <p>Use tools/equipment accurately and with</p>	<p>Use selected tools/equipment with a good level of precision.</p> <p>Produce suitable lists of tools, equipment/materials needed.</p>	<p>Use selected tools and equipment precisely and accurately.</p> <p>Produce suitable lists of tools, equipment, materials needed, considering possible constraints.</p>



# Knowledge Progression in Design Technology

<p>Build / construct with a wide range of objects.</p> <p>Select tools &amp; techniques to shape, assemble and join.</p> <p>Replicate structures using different materials and objects.</p> <p>Discuss how to make an activity safe and hygienic.</p> <p>Record experiences by drawing, writing, and through recorded discussions.</p> <p>Understand different media can be combined for a purpose.</p>	<p>cut, shape, join, finish and explain choices made.</p> <p>Measure, mark out, cut and shape, with support.</p> <p>Choose suitable materials and explain choices.</p> <p>Use some finishing techniques to make the product aesthetically pleasing.</p> <p>Work in a safe and hygienic manner.</p>	<p>Join materials/components in a variety of ways.</p> <p>With support, measure, mark out, cut and shape materials and components.</p> <p>Describe which tools I'm using and why.</p> <p>Choose suitable materials and explain choices depending on characteristics.</p> <p>Use finishing techniques to make the product aesthetically pleasing.</p> <p>Work safely and hygienically.</p>	<p>Select appropriate materials, fit for purpose.</p> <p>Follow a plan in order.</p> <p>Consider how good the product will be.</p> <p>Begin to measure, mark out, cut and shape materials/components with some accuracy.</p> <p>Begin to assemble, join and combine materials and components with some accuracy.</p> <p>Begin to apply a range of finishing techniques with some accuracy.</p>	<p>some independence.</p> <p>Select appropriate materials that are fit for purpose, and explain choices.</p> <p>Follow a plan in order.</p> <p>Consider the expected quality of the finished product.</p> <p>Measure, mark out, cut and shape materials/components with some accuracy.</p> <p>Assemble, join and combine materials and components with some accuracy.</p> <p>Apply a range of finishing techniques with some accuracy.</p>	<p>Select appropriate materials, fit for purpose and explain choices - considering functionality.</p> <p>Create and follow detailed step-by-step plans.</p> <p>Explain how the product will appeal to an audience.</p> <p>Measure, mark out, cut and shape materials/components with greater accuracy. Assemble, join and combine materials/components with greater accuracy.</p> <p>Apply a range of finishing techniques with greater accuracy. Use techniques that involve a small number of steps.</p> <p>Begin to be resourceful with practical problems.</p>	<p>Select appropriate materials, fit for purpose; explain choices - considering functionality and aesthetics.</p> <p>Create, follow, and adapt detailed step-by-step plans.</p> <p>Explain how the product will appeal to the audience.</p> <p>Make changes to improve the quality of the product.</p> <p>Accurately measure, mark out, cut and shape materials/components</p> <p>Accurately assemble, join and combine materials/components</p> <p>Accurately apply a range of finishing techniques.</p> <p>Use techniques that involve multiple steps.</p> <p>Be resourceful with practical problems.</p>
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# Knowledge Progression in Design Technology

## Key Knowledge Area: Evaluate

Throughout their school career, a Lipson Vale pupil will...

Foundation	Year One	Year Two	Year Three	Year Four	Year Five	Year Six
<p>Adapt work if necessary.</p> <p>Dismantle, examine and talk about existing objects/structures.</p> <p>Consider and manage some risks.</p> <p>Practise some appropriate safety measures independently.</p> <p>Talk about how things work.</p> <p>Look at similarities and differences between existing objects, materials, and/or tools.</p> <p>Show an interest in technological toys.</p>	<p>Talk about my product, linking it to what I was asked to do.</p> <p>Talk about existing products considering: use, materials, how they work, audience, where they might be used.</p> <p>Talk about existing products, and say what is and isn't effective/successful.</p> <p>Talk about products that other people have made.</p> <p>Begin to talk about how to improve the product.</p>	<p>Describe what went well, reflecting on design criteria.</p> <p>Talk about existing products considering: use, materials, how they work, audience, where they might be used and express personal opinion.</p> <p>Evaluate the effectiveness/success of existing products.</p> <p>Talk about what I would do differently if I were to do it again and why.</p>	<p>Look at design criteria while designing and making.</p> <p>Use design criteria to evaluate the finished product. Say what I would change to make design/product better.</p> <p>Begin to evaluate existing products, considering: how well they have been made, materials, whether they work, how they have been made, whether they are fit for purpose.</p> <p>Begin to understand by whom, when and where products were designed.</p> <p>Learn about some inventors/designers/engineers/chefs/manufacturers of</p>	<p>Refer to design criteria while designing and making.</p> <p>Use design criteria to evaluate product and the design and making process.</p> <p>Begin to explain how I could improve original design.</p> <p>Evaluate existing products, considering: how well they've been made, materials, whether they work, how they have been made, whether they are fit for purpose.</p> <p>Discuss by whom, when and where products were designed.</p>	<p>Evaluate quality of design while designing and making.</p> <p>Evaluate ideas and finished product against specification, considering purpose and appearance.</p> <p>Test and evaluate the final product.</p> <p>Evaluate and discuss existing products, considering: how well they've been made, materials, whether they work, how they have been made, whether fit for purpose.</p> <p>Consider how much products cost to make and evaluate how innovative they are.</p> <p>Research how sustainable materials are.</p>	<p>Evaluate quality of design while designing and making; is it fit for purpose?</p> <p>Keep checking the quality and effectiveness of the design/product.</p> <p>Evaluate ideas and finished product against specification, stating if it's fit for purpose.</p> <p>Test and evaluate the final product; explain how to improve it and the effect different resources may have had on the final product.</p> <p>Do thorough evaluations of existing products, considering: how well they've been made, materials, whether they work, how they've been</p>



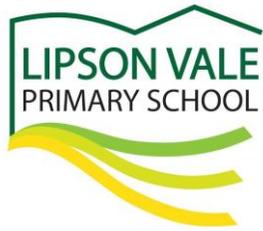
# Knowledge Progression in Design Technology

Describe and compare textures.			ground-breaking products.	<p>Research whether products can be recycled or reused.</p> <p>Know/identify some inventors/designers/engineers/chefs/manufacturers of ground-breaking products.</p>	Talk about some key inventors/designers/engineers/chefs/manufacturers of ground-breaking products.	<p>made, whether fit for purpose.</p> <p>Find out how much products cost to make and evaluate how innovative they are.</p> <p>Research and discuss how sustainable materials are.</p> <p>Consider the impact of products beyond their intended purpose.</p> <p>Discuss and compare some key inventors/designers/engineers/chefs/manufacturers of ground-breaking products.</p>
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**Key Knowledge Area: Technical Knowledge**

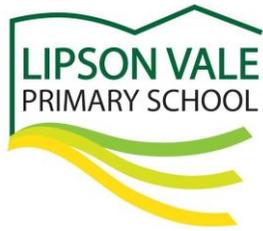
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Foundation	Year One	Year Two	Year Three	Year Four	Year Five	Year Six
	<u>Materials and Structures</u> Begin to measure and join materials, with some support.	<u>Materials and Structures</u> Measure materials.  Describe some different	<u>Materials and Structures</u> Use appropriate materials.  Work accurately to make cuts and holes.	<u>Materials and Structures</u> Measure carefully to avoid mistakes.	<u>Materials and Structures</u> Select materials carefully, considering intended use of product and appearance.	<u>Materials and Structures</u> Select materials carefully, considering intended use of the product, the



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	<p>Describe differences in materials.</p> <p>Suggest ways to make material/product stronger/stiffer/more stable.</p> <p><u>Mechanisms</u> Begin to use levers or slides.</p> <p><u>Textiles</u> With some support, measure, cut and join textiles to make a product.</p> <p>Choose suitable textiles for a product.</p>	<p>characteristics of materials.</p> <p>Join materials using different methods.</p> <p>Use joining, rolling or folding to make it stronger/stiffer/more stable.</p> <p>Use own ideas to try to make the product stronger/stiffer/more stable.</p> <p><u>Mechanisms</u> Use levers or slides. Begin to understand how to use wheels and axles.</p> <p><u>Textiles</u> Measure textiles.</p> <p>Join textiles to make a product, and explain the making process.</p> <p>Carefully cut textiles to produce accurate pieces.</p> <p>Explain choices of textile.</p>	<p>Join materials using different methods.</p> <p>Begin to make strong/stiff/stable structures.</p> <p>Select appropriate tools / techniques.</p> <p>Make alterations to the product, when required, to improve the quality and effectiveness.</p> <p><u>Mechanisms</u> Begin to try new/different ideas.</p> <p>Use simple lever and linkages to create movement.</p> <p><u>Textiles</u> Join textiles in a variety of ways.</p> <p>Choose textiles considering appearance and functionality.</p> <p><b>Understand that a simple fabric shape</b></p>	<p>Attempt to make the product strong/stiff/stable.</p> <p>Continue working on product with resilience, working through problems faced/design failures.</p> <p>Make a strong, stiff structure.</p> <p>Select most appropriate tools / techniques.</p> <p>Explain alterations to the product after checking it.</p> <p><u>Mechanisms</u> Grow in confidence about trying new / different ideas.</p> <p>Use levers and linkages to create movement.</p> <p>Use pneumatics to create movement.</p> <p><u>Textiles</u></p>	<p>Explain how the product meets design criteria.</p> <p>Measure accurately enough to ensure precision.</p> <p>Ensure the product is strong and fit for purpose.</p> <p>Begin to reinforce and strengthen a 3D frame.</p> <p>Refine product after testing.</p> <p><u>Mechanisms</u> Show confidence about trying new / different ideas.</p> <p>Begin to use cams, pulleys or gears to create movement.</p> <p><u>Textiles</u> Think about the user and aesthetics when choosing textiles.</p> <p>Use own template.</p> <p>Think about how to make the product</p>	<p>aesthetics and functionality.</p> <p>Explain how the product meets design criteria.</p> <p>Reinforce and strengthen a 3D frame.</p> <p>Refine the product after testing, considering aesthetics, functionality and purpose.</p> <p><u>Mechanisms</u> Incorporate hydraulics and pneumatics.</p> <p>Confidently try new / different ideas.</p> <p>Use cams, pulleys and gears to create movement.</p> <p><u>Textiles</u> Think about the user's wants/needs and aesthetics when choosing textiles.</p> <p>Make the product attractive and strong.</p>
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# Knowledge Progression in Design Technology

		<p>Begin to understand that a 3D textile structure can be made from two identical fabric shapes.</p>	<p>can be used to make a 3D textiles project.</p> <p><u>Electrical Systems</u> Use a simple circuit in a product.</p> <p>Learn how to program a computer to control a product.</p>	<p>Think about the user when choosing textiles.</p> <p>Think about how to make the product strong.</p> <p>Begin to devise a template.</p> <p>Explain how to join things in a different way</p> <p>Understand that a simple fabric shape can be used to make a 3D textiles project.</p> <p><u>Electrical Systems</u> Use a number of components in a circuit.</p> <p>Program a computer to control the product.</p>	<p>strong and more aesthetically pleasing.</p> <p>Begin to use a range of joining techniques.</p> <p>Begin to understand that a single 3D textiles project can be made from a combination of fabric shapes.</p> <p><u>Electrical Systems</u> Incorporate a switch in the product.</p> <p>Confidently use a number of components in a circuit.</p> <p>Begin to be able to program a computer to monitor changes in the environment and to control the product.</p>	<p>Make a prototype.</p> <p>Use a range of joining techniques. Think about how the product might be sold.</p> <p>Think carefully about what would improve the product.</p> <p>Understand that a single 3D textiles project can be made from a combination of fabric shapes.</p> <p><u>Electrical Systems</u> Use different types of circuit in the product.</p> <p>Think of ways in which adding a circuit would improve the product.</p> <p>Program a computer to monitor changes in the environment and to control the product.</p>
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