



Design & Technology at Lodge Farm

Our vision for _Design and Technology (practical)_____

INTENT: to learn to think and intervene creatively to solve problems both as individuals and as members of a team.

FINAL GOAL FOR THE END OF KS2: to confidently research, design and construct products independently that are fit for purpose, using a range of techniques.

Year group	National Curriculum Reference	EOY Intended knowledge – WHAT WILL THE CHILDREN KNOW?	EOY Intended skills – WHAT WILL THE CHILDREN BE ABLE TO DO?
Year 1	<p>Design -Design purposeful, functional, appealing products for themselves and other users based on design criteria -Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</p> <p>Make -Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] -Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</p> <p>Evaluate -Explore and evaluate a range of existing products -Evaluate their ideas and products against design criteria</p> <p>Technical knowledge Explore how structures can be made stronger, stiffer and more stable</p>	<p>Think of own ideas for design. Use pictures and words to plan. Design a product for myself, following design criteria. Work in a range of contexts (imaginary, home, school, wider community, story based)</p> <p>Explain what is being made and why. Select appropriate tools and equipment for the purpose.</p> <p>Talk about own and pre-existing products, saying what is good or bad about them. Say whether their product does what it is meant to (fits the design brief) and how it could be improved.</p> <p>Use sheet materials and construction tools with appropriate supervision (paper and card)</p> <p>Know about movement of simple mechanisms such as levers, sliders, wheels and axels</p> <p>Cut a range of textiles and practise a basic running stitch. Decorate using a range of items such as sequins.</p>	<ul style="list-style-type: none"> • Begin to explore and evaluate a range of existing products and suggest ideas about what they are going to do • With support, select appropriate materials fit for purpose • Begin to assemble, join and combine materials using a variety of temporary methods e.g glues or masking tape • With help measure, mark out, shape/cut materials • Evaluate through discussion, discuss positives and negatives and suggest changes that could be made to a product based on performance • Understand how to shape and join a range of textiles
Year 2	<p>Design -Design purposeful, functional, appealing products for themselves and other users based on design criteria -Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</p>	<p>Think of own ideas and plan what to do next. Describe designs using pictures, diagrams, models, mock-ups, words and ICT. Design a product for myself and others, following design criteria.</p>	<ul style="list-style-type: none"> • explore and evaluate a range of existing products • Select appropriate materials fit for purpose • join materials • shape/cut materials • evaluate and change features based on performance • use an axle and lever



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	<p>Make -Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] -Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</p> <p>Evaluate -Explore and evaluate a range of existing products -Evaluate their ideas and products against design criteria</p> <p>Technical knowledge Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</p>	<p>Explain what is being made and why the audience will like it. Choose appropriate tools and equipment, describing and explaining why they are being used.</p> <p>Describe how their own and pre-existing products work, evaluating what went well and what could be done differently. Suggest what went well and what would be done differently when evaluating their own product.</p> <p>Use sheet materials and construction tools with appropriate supervision (sheet wood, paper and card)</p> <p>Know about movement of simple mechanisms such as levers, sliders, wheels and axels</p> <p>Cut, then join textiles using a running stitch, over sewing or glue. Decorate using a range of items (buttons, sequins, beads, ribbons etc).</p>	<ul style="list-style-type: none"> • Understand the importance of exploring and evaluating a range of existing products and suggest ideas about what they are going to do • Select appropriate materials fit for purpose • Assemble, join and combine materials using a variety of methods • Demonstrate how to cut, shape and join materials. • Evaluate positives and negatives and suggest changes that could be made to a product based on performance • Use basic sewing techniques (over sewing and running stitch)
Year 3	<p>Design -Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups -Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p> <p>Make -Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately -Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities</p> <p>Evaluate - Investigate and analyse a range of existing products -Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work -Understand how key events and individuals in design and technology have helped shape the world</p>	<p>Create a design that meets a range of requirements. Consider the equipment and tools needed when planning.</p> <p>Describe a design using an accurately labelled diagram, and in words.</p> <p>Use a range of tools and equipment accurately. Measure, mark out, assemble and join materials and components with some accuracy</p> <p>Evaluate own and pre-existing products. Suggest what could be changed to improve a design, beginning to link this to the design brief.</p> <p>Know about movement of simple mechanisms such as levers and linkages.</p> <p>Cut and join textiles using over sewing, running stitch and back stitch and add appropriate decoration</p>	<ul style="list-style-type: none"> • use research and develop design criteria to inform their design • generate, develop, model and communicate their ideas through discussion and annotated sketches • select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately • select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities • investigate and analyse a range of existing products, beginning to consider it purpose • evaluate their ideas and products against their own design criteria and consider the views of others to improve their work • Begin to use a range of sewing techniques



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	<p>Technical knowledge</p> <ul style="list-style-type: none"> -Apply their understanding of how to strengthen, stiffen and reinforce more complex structures -understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] - understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] -apply their understanding of computing to program, monitor and control their products. 		
Year 4	<p>Design</p> <ul style="list-style-type: none"> -Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups -Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design <p>Make</p> <ul style="list-style-type: none"> -Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately -Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities <p>Evaluate</p> <ul style="list-style-type: none"> - Investigate and analyse a range of existing products -Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work -Understand how key events and individuals in design and technology have helped shape the world <p>Technical knowledge</p> <ul style="list-style-type: none"> -Apply their understanding of how to strengthen, stiffen and reinforce more complex structures 	<p>Generate more than one idea for how to create a product.</p> <p>Gather information to help design a successful product (i.e. by asking others' views).</p> <p>Produce a detailed plan with labelled diagrams, a written explanation and step-by-step guide.</p> <p>Suggest improvements to develop and refine a planned idea.</p> <p>Use a range of tools and equipment with accuracy.</p> <p>Measure, mark out, join and assemble materials and components with accuracy.</p> <p>Evaluate the appearance and usability of own and pre-existing products.</p> <p>Explain how the original design could be improved, considering the appearance and usability and linking this to the design brief.</p> <p>Cut, then join, textiles using a running stitch, over sewing, back stitch and fastenings and add appropriate decoration such as applique.</p> <p>Know about movement of simple mechanisms that use cams, pulley and gears.</p> <p>Understand that electrical circuits and components can be used to create functional products.</p>	<ul style="list-style-type: none"> • use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups • generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams • select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately • select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities • investigate and analyse a range of existing products • evaluate their ideas and products against their own design criteria and consider the views of others to improve their work • Further develop a variety of sewing techniques with growing confidence.



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	<p>–understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</p> <p>- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</p> <p>-apply their understanding of computing to program, monitor and control their products.</p>		
Year 5	<p>Design</p> <p>-Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups</p> <p>-Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p> <p>Make</p> <p>-Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</p> <p>-Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities</p> <p>Evaluate</p> <p>- Investigate and analyse a range of existing products</p> <p>-Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>-Understand how key events and individuals in design and technology have helped shape the world</p> <p>Technical knowledge</p> <p>-Apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p> <p>–understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</p> <p>- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</p>	<p>Begin to generate, develop and model their ideas through cross sectional and exploded diagrams and prototypes.</p> <p>Begin to use research to develop design criteria to inform their design.</p> <p>Begin to make appealing products that are fit for purpose.</p> <p>With growing confidence apply a range of finishing techniques.</p> <p>Use Maths to draw up specifications for their design.</p> <p>Understand that mechanical and electrical systems have input and output.</p> <p>Begin to mark out and measure accurately.</p> <p>Cut and join with accuracy.</p> <p>Weigh and measure accurately (time/dry ingredients/liquids)</p> <p>Understand how simple mechanisms that use cams, pulley and gears create movement.</p> <p>Know how more complex electrical circuits and components can be used to create functional products and how to program a computer to monitor and control their product.</p>	<ul style="list-style-type: none"> • use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups • generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams • select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately • select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities • investigate and analyse a range of existing products • evaluate their ideas and products against their own design criteria and consider the views of others to improve their work



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	<p>-apply their understanding of computing to program, monitor and control their products.</p>		
<p>Year 6</p>	<p>Design -Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups -Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p> <p>Make -Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately -Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities</p> <p>Evaluate - Investigate and analyse a range of existing products -Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work -Understand how key events and individuals in design and technology have helped shape the world</p> <p>Technical knowledge -Apply their understanding of how to strengthen, stiffen and reinforce more complex structures -understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] - understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] -apply their understanding of computing to program, monitor and control their products.</p>	<p>Be able to confidently select appropriate tools, components, materials and techniques and use them.</p> <p>Use tools safely and accurately.</p> <p>Assemble components independently to make working models.</p> <p>Aim to make and achieve a quality product.</p> <p>With confidence pin, sew and stitch materials together to create a product.</p> <p>Know a range of finishing techniques.</p> <p>Demonstrate when making modifications as they go along.</p> <p>Use permanent joining techniques when constructing.</p> <p>Understand how mechanical systems such as cams, gears, pulleys, linkages and levers create movement.</p>	<ul style="list-style-type: none"> • Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross sectional and exploded diagrams, prototypes, computer aided design and pattern pieces. • Use research to develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose. • Design products with an individual or group of people in mind. • Explain how key people and events have affected the world. • Accurately apply a range of finishing techniques. • Draw up a specification for their design – link to Maths. • Plan the order of their work. • Choose appropriate materials, tools and techniques and use them confidently. • Use tools safely and accurately. • Make working models. • Pin, sew and stitch materials to create a product. • Construct using joining techniques. • Use mechanical systems to create movement.



Design & Technology at Lodge Farm

Our vision for _Design and Technology (cooking and nutrition)_____

INTENT: to build on the children’s skills each year

FINAL GOAL FOR THE END OF KS2: In year 6 to cook a simple, nutritious dish using their taught skills

Year group	National Curriculum Reference	EOY Intended knowledge – WHAT WILL THE CHILDREN KNOW?	EOY Intended skills – WHAT WILL THE CHILDREN BE ABLE TO DO?
Year 1	Use the basic principles of a healthy and varied diet to prepare dishes Understand where food comes from.	What is needed to cook and prepare a dish e.g washing hands, tying hair back, how to use equipment safely. Where the ingredients in their dish comes from Identify some healthy and unhealthy foods	<ul style="list-style-type: none"> • How to prepare yourself for prepping and cooking food. • How to chop food safely • How to peel certain foods and why we peel it • Show an understanding of what boiling is • How to stir sensible and safely • How to weigh various ingredients • How to use all of these skills to make a dish- soup
Year 2	Use the basic principles of a healthy and varied diet to prepare dishes Understand where food comes from.	What is needed to cook and prepare a dish e.g washing hands, tying hair back, how to use equipment safely. Where the ingredients in their dish comes from Identify healthy and unhealthy foods and begin to understand what makes something healthy	<ul style="list-style-type: none"> • How to prepare yourself for prepping and cooking food and begin to understand why • How to chop ingredients safely • How to peel certain foods and why we peel it • How to boil water safely • How to fry safely. • How to weigh various ingredients and why • How to use all of these skills to make a dish- stir fry <p style="background-color: yellow;">Children should be given the opportunity to do some basic chopping and peeling with supervision)</p>
Year 3	Understand and apply the principles of a healthy and varied diet Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.	What makes up a healthy and varied diet (balance plate) Say where fruit and vegetables are grown and where/what climate they need. Show an understanding of fruits and vegetables being ‘in season’ and how we acquire it when it is not in season.	<ul style="list-style-type: none"> • How to prepare yourself for prepping and making food and explain why. • How to chop harder ingredients (such as dried fruits) safely • How to accurately weigh ingredients using various measuring equipment



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			<ul style="list-style-type: none"> How to use all of these skills to make a dish- Fruit granola <p>(At this stage children should be more independent when using the skills and should have opportunities to practise)</p>
Year 4	<p>understand and apply the principles of a healthy and varied diet</p> <p>prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</p> <p>understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</p>	<p>What makes up a healthy and varied diet (balance plate)</p> <p>Learn about hens and how free range hens differ to caged hens.</p>	<ul style="list-style-type: none"> Explain why we should prepare ourselves for prepping and making food. How to safely boil water and use it to cook (egg) How to safely fry food until it is cooked (egg) How to chop ingredients safely How to weigh ingredients accurately and select the correct measuring tool How to use all of these skills to make a dish- Omelette <p>(At this stage, children should be able to undertake these skills fairly independently demonstrating care and safety)</p>
Year 5	<p>understand and apply the principles of a healthy and varied diet</p> <p>prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</p> <p>understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</p>	<p>Research where pasta comes from and different types</p> <p>Know how pasta is good for us and which food group it comes from.</p> <p>Know what the word processed means and how processed foods are not always healthy</p>	<ul style="list-style-type: none"> Explain why we should prepare ourselves for prepping and making food. To follow a recipe How to safely boil water and use it to cook (pasta) How to chop ingredients safely and in a variety of ways How to peel ingredients safely and explain why some ingredients need to be peeled. How to weigh ingredients accurately and select the correct measuring tool How to use all of these skills to make a dish- Pasta salad
Year 6	<p>understand and apply the principles of a healthy and varied diet</p> <p>prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</p> <p>understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</p>	<p>How to follow a recipe</p> <p>Make a complex dish using the skills they build up since year 1.</p> <p>Compare processed food to fresh food</p> <p>Research how the ingredients of the dish are grown, reared, caught and processed.</p>	<ul style="list-style-type: none"> Explain why we should prepare ourselves for prepping and making food. Follow a recipe Explain why some foods need seasoning and to season food carefully How to peel ingredients safely How to chop ingredients in a variety of ways to suit the recipe



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			<ul style="list-style-type: none">• How to safely fry food and understand the importance of heat control• How to open a tin and dispose of it after in a safe way• How to boil water, add food and cook safely• How to use all of these skills to make a dish- Spaghetti Bolognese
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