



Lovers' Lane Primary and Nursery School



DT National Curriculum EYFS and Key stage 1

EYFS: Expressive Arts and Design

ELG: Creating with Materials

Children at the expected level of development will:

- 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.
- Make use of props and materials when role playing characters in narratives and stories.

ELG: Being Imaginative and Expressive

Children at the expected level of development will:

- Invent, adapt and recount narratives and stories with peers and their teacher.
- Sing a range of well-known nursery rhymes and songs.
- Perform songs, rhymes, poems and stories with others, and – when appropriate – try to move in time with music.

DT National Curriculum Key stage 1

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment]. When designing and making, pupils should be taught to:

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

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

Evaluate

- explore and evaluate a range of existing products
- evaluate their ideas and products against design criteria

Technical knowledge

- build structures, exploring how they can be made stronger, stiffer and more stable
- explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

DT National Curriculum Key stage 2

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Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment]. When designing and making, pupils should be taught to:

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

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

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

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.

Cooking and nutrition As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life. Pupils should be taught to:

Key stage 1

use the basic principles of a healthy and varied diet to prepare dishes

understand where food comes from.

Key stage 2

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.

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DT Progression – Disciplinary Knowledge							
Key Area	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Design	<p>Know that ideas are the 1st step in the making process.</p> <p>Know that a product can be made from a plan.</p>	<p>Know that a plan/design draws together ideas to make a product</p> <p>Know that there is more than one way to create a plan/design</p>	<p>Know that a plan/design can be created and adapted to suit a specific product</p> <p>Know that there are different ways to communicate ideas including IT.</p>	<p>Know that research can inform plans/design criteria which can be altered and improved for a range of purposes</p>	<p>Know that the outcome from a design will be affected by the designer's choice</p>	<p>Know that the outcome from a design will be influenced by a number of factors</p>	<p>Know that purpose and audience subsequently shapes the design of a product</p>
Making	<p>Know primarily through their own experiences that tools and materials can be safely used to make things.</p>	<p>Know that there is a range of different tools and materials which can be used to create a product</p>	<p>Know that some tools and materials are more useful than others when creating a product</p>	<p>Know that the characteristics of tools and materials informs their use in the making process</p>	<p>Know that the success of the making process is reliant on the accurate selection and use of appropriate tools and materials.</p>	<p>Know that products with the same purpose can be made using a range of tools, materials and different designs and still be effective.</p>	<p>Know that a prototype can be a key part of the making process and be used to canvas opinion and test out the product on a wide range of users so that it will be fit for purpose.</p>
Evaluating	<p>Know that creations may or may not meet initial expectations.</p> <p>Know that a simple evaluation can be used to improve a product</p>	<p>Know that a set of criteria is needed in order to judge the effectiveness of a product.</p>	<p>Know that how well a creation matches to the criteria is a deciding factor in how effective the end product is.</p>	<p>Know that criteria may need adjusting to make an accurate evaluation.</p>	<p>Know that your own evaluation and the views of others can lead to modifications to the criteria and the creation of a new and improved design.</p>	<p>Know that products have evolved over time as a result of constant evaluation and modification in line with the changing world.</p>	<p>Know that evaluation of past and present DT leads to an understanding about its impact on modern day life.</p>
Cooking and Nutrition	<p>Know that there are healthy and unhealthy foods</p>	<p>Know that all food comes from different sources</p>	<p>Know that there are foods that support good health and</p>	<p>Know that food is categorized into sweet and savoury</p>	<p>Know that there are a range of techniques that can be used in</p>	<p>Know that there are different processes that food goes</p>	<p>Know that seasonality can affect the</p>

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			contribute towards a balanced diet	Know that food choices have an impact on health	preparing and cooking sweet and savoury food	through to get to the final product.	availability and quality of products. Know that food ingredients should be stored in a specific way
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DT Progression: Factual Knowledge (Substantive)

DT Progression - Background Research - Exploring context and existing products

Key Area	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Background Research - Exploring context and existing products	Know what a product is and who it is for.	Know how a product works and how it is used. Know where you might find this product.	Know the materials used to make the product. Know how to express an opinion about the product.	Know who has made the product, when it was made and what its purpose is. Know how to evaluate the product on design and use.	Know how to evaluate the product on design and use. Know facts about famous inventors/ chefs / designers etc. linked to product	Know what the product has been made from and how environmentally friendly the materials are. Know how to evaluate the product on design, appearance, use and identify the cost to make the product	Know and identify the cost to make the product and whether it has any other purposes e.g. Leading innovation of the time, trend setting Know and make links between famous inventors/ chefs / designers etc. linked to products.

DT Progression - Design Criteria – Understanding their intended users and their own product

Key Area	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Design Criteria – Understanding their intended	Know how to describe what their product will be used for.	Know what product they will be designing and making. Know who their product will be used by.	Know to use their own experiences and existing products to develop ideas. Know what their product will be used	Know the purpose of their product and how it will work. Know and identify design features that will appeal to intended users.	Know and gather information about what a particular group or people want from a product. Know how to generate realistic ideas that meet needs of user.	Know and gather information about what a particular group or people want from a product, using questionnaires, surveys etc	Know how to create a design description for their product. Know the impact of time, resources and cost within their design ideas.

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users and their own product			for and how it will work. Know and explain why their product is suitable for the intended user.	Know how to generate realistic ideas that meet needs of user.	Know how parts of their product works. Know how to develop their own design criteria and use for planning ideas.	Know how to generate innovative ideas that meet needs of user and take into account availability of resources.	
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DT Progression - Planning – Communicating ideas and creating prototypes for product

Key Area	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Planning – Communicating ideas and creating prototypes for product	Know how to represent ideas through talking.	Know how to discuss what their steps for making could be. Know how to represent ideas through talking and drawing.	Know how to represent ideas through talking and drawing and computing – (where appropriate) Know how to create templates/pattern pieces and explore materials whilst developing ideas.	Know how to share and discuss ideas with others. Know how to choose materials to use based on suitability of their properties. Know how to represent ideas in diagrams and annotated sketches.	Know how to choose materials to use based on suitability of their properties and aesthetic qualities. Know how to order the main stages of making	Know how to record a step by step plan for making. Know how to produce lists for the tools, equipment and materials they will be using. Know how to represent ideas in diagrams, annotated sketches and computer based programmes (where appropriate) Know how to create pattern pieces and prototypes.	Know how to make design decisions, considering, resources and cost.

DT Progression - Making – Selecting the tools and applying the practical skills and techniques

Key Area	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Making – Selecting the tools and applying the	Know and follow safety and food	Know how to use construction materials and kits, textiles, food and mechanical components.	Know how to measure, mark, cut and shape materials and components.	Know how to use construction materials and kits, textiles, food, mechanical and electrical components.	Know how to measure, mark, cut and shape materials and components with some accuracy.	Know how to use construction materials and kits, textiles, food, mechanical and electrical components.	Know to use problem solving skills when encountering a mistake or

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practical skills and techniques	hygiene procedures.	Know how to choose suitable tools for making. Know how to join, assemble and combine materials and components.	Know how to use finishing techniques, including skills learnt in Art.	Know how to choose suitable tools for making whilst explaining why they should be used. Know how to use design criteria whilst making. Know how to follow safety and food hygiene procedures.	Know how to join, assemble and combine materials and components with some accuracy.	Know how to use finishing techniques, including skills learnt in Art with some accuracy.	practical problem.
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DT Progression - Evaluation – Referring to planning and initial ideas in evaluating their product

Key Area	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Evaluation – Referring to planning and initial ideas in evaluating their product	Know how to talk about what they have made.	Know how to talk about their design ideas and what they have made.	Know how to make simple judgements of how the product met their design ideas. Know ideas about how their product could be improved.	Know how to use a design criterion to evaluate a product. Know how to test the success of the product against the original design criteria and justify opinions	Know how to use a design criterion to evaluate a product – identifying both strengths and areas for development.	Know they need to consider the views of others, including intended user, whilst evaluating a product. Know about making sustainable choices.	Know how to use a design criterion to evaluate a product – looking at quality of end product and design and whether it is fit for its intended purpose. Know how to evaluate their design against a budget. Know about Health and Safety processes in DT.

DT Progression - Technical knowledge – Materials/structures

Key Area	EYFS	Year 1 Freestanding Structure	Year 2	Year 3 Easter Photo Frame	Year 4	Year 5 Making a Mayan Temple	Year 6
Materials/structures	Know how to join materials, with some support.	Know how to measure and join materials, with some support.	Know how to measure materials. Know how to describe some different	Know how to use appropriate materials. Know to work accurately to make cuts and holes.	Know how to measure carefully to avoid mistakes. Know how to continue working on a product	Know to select materials carefully, considering intended use of product and appearance.	Know how to select materials carefully, considering intended use of the product, the aesthetics and functionality.

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		Know how to describe differences in materials.	characteristics of materials. Know how to use joining, rolling or folding to make it stronger.	Know how to join materials in different ways. Know to use own ideas to try to make product stronger.	even if the original didn't work. Know how to make a strong, stiff structure.	Know how to explain how the product meets design criteria. Know how to measure accurately enough to ensure precision. Know how to reinforce and strengthen a 3D frame.	Know how to explain how a product meets design criteria.
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DT Progression - Technical knowledge - Mechanisms

<u>Key Area</u>	<u>EYFS</u>	<u>Year 1</u> Moving Pictures	<u>Year 2</u> Wheels and axels	<u>Year 3</u>	<u>Year 4</u> Making a Shaduf	<u>Year 5</u>	<u>Year 6</u> Making a Toy
Mechanisms	Know what a lever and slide is and have seen them in books/toys for example.	Know the basics of how to use levers or slides.	Know how to use levers or slides. Know how to use wheels and axles.	Know how to select appropriate tools / techniques. Know how to alter a product after checking, to make it better. Know to try new/different ideas. Know how to use simple lever and linkages to create movement.	Know how to explain alterations to product after checking it. Know how to use pneumatics to create movement.	Know how to refine a product after testing. Know how to use cams, pulleys or gears to create movement.	Know how to refine product after testing, considering aesthetics, functionality and purpose. Know how to incorporate hydraulics and pneumatics.

DT Progression - Technical knowledge - Textiles

<u>Key Area</u>	<u>EYFS</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u> Stone Age Jewelry	<u>Year 4</u>	<u>Year 5</u> Embroidered Pictures	<u>Year 6</u>
Textiles	Know how to cut and join textiles.	Know how to cut and join textiles to make a product with some support.	Know how to measure textiles, join textiles together to make a product, and explain how they did it.	Know how to join different textiles in different ways. Know how to choose textiles considering appearance and functionality.	Know they need to think about the user when choosing textiles. Know they need to think about how to	Know they need to think about the user and aesthetics when choosing textiles. Know how to use their own template.	Know they need to think about user's wants/needs and aesthetics when choosing textiles. Know how to make a prototype.

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		Know how to choose suitable textiles.	Know how to carefully cut textiles to produce accurate pieces. Know how to explain choices of textile. Know that a 3D textile structure can be made from two identical fabric shapes.	Know that a simple fabric shape can be used to make a 3D textiles project.	make a product strong. Know how to devise a template.	Know how to make their product look better. Know a range of ways to join things. Know that a single 3D textiles project can be made from a combination of fabric shapes.	Know and think about how products might be sold. Know ideas around what would improve a product.
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DT Progression - Technical knowledge – Electrical systems

Key Area	EYFS	Year 1	Year 2	Year 3	Year 4 Making a Lamp	Year 5	Year 6 Switches and Circuits
Electrical systems				Know how to use a simple circuit in a product.	Know how to use a number of components in a circuit.	Know how to program a computer to control a product.	Know how to use different types of circuits in a product. Know how to think of ways in which adding a circuit would improve product. Know how to program a computer to monitor changes in the environment and control a product.

DT Progression - Understanding food and food preparation

Key Area	EYFS	Year 1 Preparing Fruit and Vegetables	Year 2 Preparing Fruit and Vegetables	Year 3 Roman Tiger Nut Sweets	Year 4 Designing and Making Bread	Year 5 Pope Lady Cakes	Year 6 A Seasonal Pudding
Understanding food and food preparation	Know the importance of washing hands & clean surfaces.	Know how to make an activity safe and hygienic. Know that food comes from plants or animals.	Know that food has to be farmed, caught, or grown.	Know which foods are reared, caught, or grown and that this happens in the UK and across the globe.	Know that the seasons can affect food produce.	Know which foods are reared, caught, or grown and that this happens in the UK and across the globe.	Know that sometimes raw ingredients need to be processed before they can be used in cooking (e.g. De-feathering a chicken)

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DT Progression - Food preparation, cooking and nutrition

<u>Key Area</u>	<u>EYFS</u>	<u>Year 1</u> Preparing Fruit and Vegetables	<u>Year 2</u> Preparing Fruit and Vegetables	<u>Year 3</u> Roman Tiger Nut Sweets	<u>Year 4</u> Designing and Making Bread	<u>Year 5</u> Pope Lady Cakes	<u>Year 6</u> A Seasonal Pudding
Food preparation, cooking and nutrition	<p>Know some food preparation tools, techniques and processes.</p> <p>Know how to stir, mix, pour, blend.</p> <p>Know the link between senses and food.</p> <p>Know the need for a variety of food.</p> <p>Know that eating well contributes to good health.</p>	<p>Know that people should eat at least 5 portions of fruit and vegetables a day.</p> <p>Know how to prepare simple dishes hygienically and safely without a heat source.</p> <p>Know how to think of interesting ways to decorate food.</p>	<p>Know how to sort foods into the 5 groups using The Eatwell Plate.</p> <p>Know how to describe differences between some food groups.</p> <p>Know how to cut, peel and grate safely, with support.</p>	<p>Know how to sort foods into the 5 groups using The Eatwell Plate. and identify that this makes up a healthy diet.</p> <p>Prepare simple dishes hygienically and safely, where needed with a heat source.</p> <p>Know how to use cooking techniques such as: chopping, peeling, grating slicing, mixing, spreading.</p>	<p>Know that food and drink are needed to provide energy for a healthy and active lifestyle.</p> <p>Know that recipes can be changed by adding or taking away ingredients.</p> <p>Know how to use cooking techniques such as: kneading and baking.</p>	<p>Know that recipes can be adapted to change the appearance, taste and aroma of a dish.</p> <p>Know that food and drink provide certain nutritional and health benefits which support a healthy lifestyle</p>	<p>Know how to use a variety of cooking techniques and decide for themselves which is the technique needed.</p>



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Lovers' Lane Primary School – Key DT Concept Words

DT	
aesthetic analyse annotated components construction criteria cross section design develop equipment explore evaluate function functional generate	innovative mechanical mechanism monitor process prototype structure template

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