Design & Technology Progression of Learning at Woodstock CE Primary School

National Curriculum Overview

Key Stage 1	Key Stage 2

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
- ☆ Work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment, including food and nutrition]
- ☆ Acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art

Design

EYFS	KS1: Years 1 & 2		KS2: Years 3 & 4		KS2: Years 5 & 6	
ELG	**Understanding contexts, users and purposes**	**Generating, developing, modelling and communicating ideas**	**Understanding contexts, users and purposes**	**Generating, developing, modelling and communicating ideas**	**Understanding contexts, users and purposes**	**Generating, developing, Modelling and communicating ideas**
☆ Represent own ideas, thoughts and feelings in a variety of ways.	☆ Work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment ☆ State what products they are designing and making ☆ Say whether their products are for themselves or other users ☆ Describe what their products are for ☆ Say how their products will work ☆ Say how they will make their products suitable for their intended users	☆ Generate ideas by drawing on their own experiences ☆ Use knowledge of existing products to help come up with ideas ☆ Develop and communicate ideas by talking and drawing ☆ Model ideas by exploring materials, components and construction kits and by making templates and mock-ups ☆ Use information and ☆ communication technology, where appropriate, to develop and communicate their ideas	☆ Work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment ☆ Describe the purpose of their products ☆ Indicate the design features of their products that will appeal to intended users ☆ Explain how particular parts of their products work ☆ Gather information about the needs and wants of individuals and groups ☆ Develop their own design criteria and use these to inform their ideas	☆ Share and clarify ideas through discussion ☆ Model their ideas using prototypes and pattern pieces ☆ Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and ☆ communicate their ideas ☆ Use computer-aided design to develop and communicate their ideas ☆ Generate realistic ideas, focusing on the needs of the user ☆ Make design decisions that take account of the availability of resources	☆ Work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment ☆ Describe the purpose of their products ☆ Indicate the design features of their products that will appeal to intended users ☆ Explain how particular parts of their products work ☆ Carry out research, using surveys, interviews, questionnaires and web-based resources ☆ Identify the needs, wants, preferences and	☆ Share and clarify ideas through discussion ☆ Model their ideas using prototypes and pattern pieces ☆ Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas ☆ Use computer-aided design to develop and communicate their ideas ☆ Generate innovative ideas, drawing on research ☆ Make design decisions, taking account of constraints such as time, resources and cost

	☆ Use simple design criteria to help develop their ideas				values of individuals and groups ☆ Develop a simple design specification to guide their thinking	

Make						
EYFS	**KS1: Years 1 & 2**		**KS2: Years 3 & 4**		**KS2: Years 5 & 6**	
	Planning	**Practical Skills & Techniques**	**Planning**	**Practical Skills & Techniques**	**Planning**	**Practical Skills & Techniques**
ELG ☆ Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	☆ Plan by suggesting what to do next ☆ Select from a range of tools and equipment, explaining their choices ☆ Select from a range of materials and components according to their characteristics	☆ Follow procedures for safety and hygiene ☆ Use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components ☆ Measure, mark out, cut and shape materials and components ☆ Assemble, join and combine materials and components ☆ Use finishing techniques, including those from art and design	☆ Select tools and equipment suitable for the task ☆ Explain their choice of tools and equipment in relation to the skills and techniques they will be using ☆ Select materials and components suitable for the task ☆ Explain their choice of materials and components according to functional properties and aesthetic qualities ☆ Order the main stages of making	☆ Follow procedures for safety and hygiene ☆ Use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components ☆ Measure, mark out, cut and shape materials and components with some accuracy ☆ Assemble, join and combine materials and components with some accuracy ☆ Apply a range of finishing techniques, including those from art and design, with some accuracy	☆ Select tools and equipment suitable for the task ☆ Explain their choice of tools and equipment in relation to the skills and techniques they will be using ☆ Select materials and components suitable for the task ☆ Explain their choice of materials and components according to functional properties and aesthetic qualities ☆ Produce appropriate lists of tools, equipment and materials that they need ☆ Formulate step-by-step plans as a guide to making	☆ Follow procedures for safety and hygiene ☆ Use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components ☆ Accurately measure, mark out, cut and shape materials and components ☆ Accurately assemble, join and combine materials and components ☆ Accurately apply a range of finishing techniques, including those from art and design ☆ Use techniques that involve a number of steps ☆ Demonstrate resourcefulness when tackling practical problems

Evaluate

EYFS	KS1: Years 1 & 2		KS2: Years 3 & 4		KS2: Years 5 & 6	
ELG	**Own Ideas & Products**	**Existing Products**	**Own Ideas & Products**	**Existing Products**	**Own Ideas & Products**	**Existing Products**
☆ Use what they have learnt about media and materials in original ways, thinking about uses and purposes.	☆ Talk about their design ideas and what they are making ☆ Make simple judgements about their products and ideas against design criteria ☆ Suggest how their products could be improved	**Children will explore:** ☆ What products are ☆ Who products are for ☆ What products are for ☆ How products work ☆ How products are used ☆ Where products might be used ☆ What materials products are made from ☆ What they like and dislike about products	☆ Identify the strengths and areas for development in their ideas and products ☆ Consider the views of others, including intended users, to improve their work ☆ Refer to their design criteria as they design and make ☆ Use their design criteria to evaluate their completed products	**Children will investigate and analyse:** ☆ How well products have been designed ☆ How well products have been made ☆ Why materials have been chosen ☆ What methods of construction have been used ☆ How well products work ☆ How well products achieve their purposes ☆ How well products meet user needs and wants ☆ Who designed and made the products? ☆ Where products were designed and made ☆ When products were designed and made ☆ Whether products can be recycled or reused	☆ Identify the strengths and areas for development in their ideas and products ☆ Consider the views of others, including intended users, to improve their work ☆ Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make ☆ Evaluate their ideas and products against their original design specification	**Children will investigate and analyse:** ☆ How well products have been designed ☆ How well products have been made ☆ Why materials have been chosen ☆ What methods of construction have been used ☆ How well products work ☆ How well products achieve their purposes ☆ How well products meet user needs and wants ☆ How much products cost to make? ☆ How innovative products are ☆ How sustainable the materials in products are? ☆ What impact products have beyond their intended purpose

Children should know about: Key Events & Individuals: Inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products. These will be identified in the long-term plan Learning Journeys and link to phase group themes.

Technical Knowledge

EYFS

ELG

- ☆ Recognise that a range of technology is used in places such as homes and schools.
- ☆ Select and use technology in different ways.

KS1: Years 1 & 2

Making Products Work

Children will know:

- ☆ About the simple working characteristics of materials and components
- ☆ About the movement of simple mechanisms such as levers, sliders, wheels and axles
- ☆ How freestanding structures can be made stronger, stiffer and more stable

Children will know:

- ☆ That a 3-D textiles product can be assembled from two identical fabric shapes
- ☆ That food ingredients should be combined according to their sensor characteristics
- ☆ The correct technical vocabulary for the projects they are undertaking

KS2: Years 3 & 4

Making Products Work

- ☆ Use learning from science to help design and make products that work
- ☆ Use learning from mathematics to help design and make products that work
- ☆ Know that materials have both functional properties and aesthetic qualities
- ☆ Know that materials can be combined and mixed to create more useful characteristics
- ☆ Know that mechanical and electrical systems have an input, process and output
- ☆ Use the correct technical vocabulary for the projects they are undertaking

Children will know:

- ☆ How mechanical systems such as levers and linkages or pneumatic systems create movement
- ☆ How simple electrical circuits and components can be used to create functional products
- ☆ How to program a computer to control their products
- ☆ How to make strong, stiff shell structures
- ☆ That a single fabric shape can be used to make a 3D textiles product
- ☆ That food ingredients can be fresh, pre-cooked and processed

KS2: Years 5 & 6

Making Products Work

- ☆ Use learning from science to help design and make products that work
- ☆ Use learning from mathematics to help design and make products that work
- ☆ Know that materials have both functional properties and aesthetic qualities
- ☆ Know that materials can be combined and mixed to create more useful characteristics
- ☆ Know that mechanical and electrical systems have an input, process and output
- ☆ Use the correct technical vocabulary for the projects they are undertaking

Children will know:

- ☆ How mechanical systems such as cams or pulleys or gears create movement
- ☆ How more complex electrical circuits and components can be used to create functional products
- ☆ How to program a computer to monitor changes in the environment and control their products
- ☆ How to reinforce and strengthen a 3D framework
- ☆ That a 3D textiles product can be made from a combination of fabric shapes
- ☆ That a recipe can be adapted by adding or substituting one or more ingredients

Food Technology

EYFS	KS1: Years 1 & 2		KS2: Years 3 & 4		KS2: Years 5 & 6	
ELG ☆	**Where Food Comes From**	**Food Preparation, Cooking & Nutrition**	**Where Food Comes From**	**Food Preparation, Cooking & Nutrition**	**Where Food Comes From**	**Food Preparation, Cooking & Nutrition**
	Children will know: ☆ All food comes from plants or animals ☆ Food has to be farmed, grown elsewhere (e.g. home) or caught	**Children will know:** ☆ How to name and sort foods into the five groups in The Eatwell Plate ☆ That everyone should eat at least five portions of fruit and vegetables every day ☆ How to prepare simple dishes safely and hygienically, without using a heat source ☆ How to use techniques such as cutting, peeling and grating	**Children will know:** ☆ Food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world ☆ What seasons foods grow best	**Children will know:** ☆ How to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source ☆ How to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking ☆ That a healthy diet is made up from a variety and balance of different food and drink, as depicted in The Eatwell plate ☆ That to be active and healthy, food and drink are needed to provide energy for the body	**Children will know:** ☆ Food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world ☆ Seasons may affect the food available ☆ How food is processed into ingredients that can be eaten or used in cooking	**Children will know:** ☆ How to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source ☆ How to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking ☆ That recipes can be adapted to change the appearance, taste, texture and aroma ☆ That different food and drink contain different substances – nutrients, water and fibre – that are needed for health