Design and Technology

Foundation Stage	Key stage 1	Key Stage 2
Children in the Foundation Stage work toward to the Expressive Art and Design Early Learning Goal Statements: **ELG Creating with Materials** They 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. **ELG Fine Motor Skills** Hold a pencil effectively, using the tripod grip in almost all cases. Use a range of small tools, including scissors and paint brushes. Begin to show accuracy and care when drawing.	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.	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.

EMMANUEL HOLCOMBE C.E. PRIMARY SCHOOL

Design and Technology in the Foundation Stage

Children in the Foundation Stage develop their Design and Technology skills, knowledge and understanding through the area of learning "Expressive arts and design" which involves supporting the children to explore and play with a wide variety of media and materials, as well as providing opportunities and encouragement for sharing their thoughts, ideas and feelings through a variety of activities in art, music, movement, dance, role play and design and technology. These activities are delivered through planned adult led activities and through providing a range of media and materials for them to explore independently in the continuous provision.

The skills we work towards in the foundation stage are outlined in the following Early Learning Goals:

Expressive Art and Design

ELG: Creating with Materials

They 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.

Physical Development

ELG: Fine Motor Skills

Hold a pencil effectively, using the tripod grip in almost all cases.

Use a range of small tools, including scissors and paint brushes

Begin to show accuracy and care when drawing.

Design and Technology in Key Stage 1

Learning Intention
I can use my own ideas to make something
I can make a simple plan before making
I can think of an idea and plan what to do next
I can explain to someone else how I want to make my product
I can describe how something works
I can choose appropriate resources and tools
I can choose tools and materials and explain why I have chosen them
I can join materials and components in different ways
I can measure materials to use in a model or structure
I can make a product which moves
I can make my model stronger
I can explain why I have chosen specific textiles
I can cut food safely
I can describe the ingredients I am using
I can explain what went well with my work

Design and Technology in Lower Key Stage 2 (Year 3 and 4)

Learning Intention
I can prove that my design meets some set criteria
I can follow a step-by-step plan, choosing the right equipment and materials
I can design a product and make sure that it looks attractive
I can use ideas from other people when I am designing
I can produce and plan and explain it
I can evaluate and suggest improvements for my designs
I can evaluate products for both their purpose and appearance
I can select the most appropriate tools and techniques for a given task
I can explain how I have improved my original design
I can persevere and adapt my work when my original ideas do not work, I can present a product in an interesting way
I can work accurately to measure, make cuts and make holes
I can measure accurately
I can make a product which uses both electrical and mechanical components
I can describe how food ingredients come together
I know to be both hyenic and safe when using food.

Design and Technology in Upper Key Stage 2 (Years 5 and 6)

Learning Intention
I can come up with a range of ideas after collecting information from different sources
I can produce a detailed step by step plan
I can follow and refine my plans
I can justify my plans in a convincing way
I can suggest alternative plans; outlining the positive features and draw backs
I can use market research to inform my plans and ideas
I can explain how a product will appeal to a specific audience
I can show that I consider culture and society in my plans and designs
I can evaluate appearance and function against original criteria
I can show that I can test and evaluate my products
I can evaluate my product against a clear criteria
I can explain how products should be stored and give reasons
I can use a range of tools and equipment competently
I can make a prototype before making a final version
I can work within a budget
I can show that I can be both hygienic and safe in the kitchen

Cooking and Nutrition

Foundation Stage
Children in the Foundation Stage at Emmanuel cook regularly as and when opportunities present themselves e.g. making mince pies at Christmas, sandwiches when we read Whatever Next by Jill Murphy and go to 'The Moon', pancakes on shrove Tuesday, crispy cakes at Easter etc.
Children learn about mixing, melting, cookig, chopping, baking. They learn about how to be safe and hygienic.

Key Stage 1
That all food comes from plants or animals That food has to be farmed, grown elsewhere (e.g. home) or caught
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

Years 3 and 4

That 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

How to prepare and cook a variety of predominantly savoury dishes safely and hygienically including 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 eat well plate

That to be active and healthy, food and drink are needed to provide energy for the body

Years 5 and 6

That seasons may affect the food available

How food is processed into ingredients that can be eaten or used in cooking

How to prepare and cook a variety of predominantly savoury dishes safely and hygienically incl 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