Design & Technology

Curriculum

Early Years Foundation Stage

Expressive arts and design		
	Children will be learning to…	**Examples of how to support this…**
Birth to three	Explore different materials, using all their senses to investigate them. Manipulate and play with different materials. Use their imagination as they consider what they can do with different materials. Make simple models which express their ideas. Start eating independently and learning how to use a knife and fork	Stimulate young children's interest in modelling. Suggestions: provide a wide range of found materials ('junk') as well as blocks, clay, soft wood, card, offcuts of fabrics and materials with different textures. Provide appropriate tools and joining methods for the materials offered. Encourage young children to explore materials/ resources finding out what they are/what they can do and decide how they want to use them.
3 & 4-year olds	Explore different materials freely, to develop their ideas about how to use them and what to make. Develop their own ideas and then decide which materials to use to express them. Join different materials and explore different textures. Use one-handed tools and equipment, for example, making snips in paper with scissors. Use a comfortable grip with good control when holding pens and pencils. Show a preference for a dominant hand Make healthy choices about food, drink.	Offer opportunities to explore scale. Suggestions: • long strips of wallpaper • child size boxes • different surfaces to work on e.g., paving, floor, tabletop or easel Listen and understand what children want to create before offering suggestions. Invite artists, musicians and craftspeople into the setting, to widen the range of ideas which children can draw on. Suggestions: glue and masking tape for sticking pieces of scrap materials onto old cardboard boxes, hammers and nails, glue guns, paperclips and fasteners. Give children the opportunity to try different fruits/vegetables/healthy food options. Children to prepare simple food e.g. chopping fruit vegetables, mixing/kneading dough for bread etc.

Reception	Explore, use and refine a variety of artistic effects to express their ideas and feelings. Return to and build on their previous learning, refining ideas and developing their ability to represent them. Create collaboratively, sharing ideas, resources and skills. Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Suggested tools: pencils for drawing and writing, paintbrushes, scissors, knives, forks and spoons. Know and talk about the different factors that support their overall health and wellbeing: regular physical activity & healthy eating	Provide opportunities to work together to develop and realise creative ideas. Provide children with a range of materials for children to construct with. Encourage them to think about and discuss what they want to make. Discuss problems and how they might be solved as they arise. Reflect with children on how they have achieved their aims. Teach children different techniques for joining materials, such as how to use adhesive tape and different sorts of glue. Provide a range of materials and tools and teach children to use them with care and precision. Promote independence, taking care not to introduce too many new things at once. Talk with children about exercise, healthy eating and the importance of sleep. Ask the children to help with snack and talk about the fruit/vegetables they get to share. Engage in food preparation activities such as: baking, making fruit kebabs, preparing a sandwich.

Early Learning Goal: 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;

ELG: Managing self
Children at the expected level of development will:

- Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.

ELG: Physical development – Fine motor skills
Children at the expected level of development will:

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

Key Stage 1

Purpose of study

Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

- 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
- Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics
- Select from and use a range of tools and equipment to perform practical tasks such as cutting, shaping, joining and finishing
- Evaluate their ideas and products against design criteria
- Explore and evaluate a range of existing products
- Build structures, exploring how they can be made stronger, stiffer and more stable
- Explore and use mechanisms, such as levers, sliders, wheels and axles, in their products.
- Use the basic principles of a healthy and varied diet to prepare dishes.
- Understand where food comes from.

MINIMUM EXPECTED STANDARDS – By the end of Year 1 most pupils should be able to:				
Designing	**Making**	**Evaluating**	**Technical Knowledge**	**Cooking & Nutrition**
• Work within a range of contexts e.g, imaginary/story-based, playgrounds, home, garden, local community, industry and wider environment. • Begin to draw on their own experience to help generate ideas and research conducted on criteria. • Begin to understand the development of existing products: what they are for, how they work, materials used. • Start to suggest ideas and explain what they are going to do. • Plan by suggesting what to do next • Understand how to identify a target group for what they intend to design and make based on a design criteria. • Begin to develop their ideas through talk and drawings. Make templates and mock ups of their ideas in card and paper.	• Begin to make their design using appropriate techniques. • Select from a range of tools, materials and components • Begin to follow safety and hygiene rules • Explore using tools safely *e.g. scissors, a hole punch*. • Begin to build structures, exploring how they can be made stronger, stiffer and more stable. See focused practical task (FPT) • Begin to assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking • Use a range of materials, components, construction kits, textiles and mechanical products. • With help measure, mark out, cut and shape a range of materials. • Explore and use mechanisms [for example, levers, sliders, in their products.	• Start to evaluate their product by discussing how well it works in relation to the purpose (design criteria). • Talk about the strengths of their product and how to make it better • Explore what products are, what they are made from, who they are for, how they are used and where they are from. • Talk about what they like and dislike from a range existing products and explain why	• Begin to make their design using appropriate techniques. • Know about the simple working characteristics of materials and components such as the movement of simple mechanisms eg, levers, sliders. Know how freestanding structures can be made stronger, stiffer and more stable. • Recognise a range of technology is used in places such as homes and schools. • Select and use technology for particular purposes. • Know how to operate simple equipment and show an interest in toys with buttons, flaps and simple mechanisms and operate them successfully. • Begin to use the correct technical vocabulary for projects.	• Begin to understand that all food comes from plants or animals. • Explore the understanding that food has to be farmed, grown elsewhere (e.g. home) or caught. • Start to understand how to name and sort foods into the five groups in 'The Eat well plate'. • Begin to understand that everyone should eat at least five portions of fruit and vegetables every day. • Know how to prepare simple dishes safely and hygienically, without using a heat source. • Know how to use techniques such as cutting, peeling and grating. • Use a range of ingredients • With help, cook on an open fire.

MINIMUM EXPECTED STANDARDS – By the end of Year 2 most pupils should be able to:					
	Designing	**Making**	**Evaluating**	**Technical Knowledge**	**Cooking and Nutrition**
	• Work within a range of contexts e.g, imaginary/story-based, playgrounds, home, garden, local community, industry and wider environment. • Start to generate ideas by drawing on their own and other people's experiences. • Use knowledge of existing products to help come up with ideas. • Begin to develop their design ideas through discussion, observation, drawing and modelling. • Say what products they design and make. • Say how their products will work and how they are intended for users • Understand how to identify a target group for what they intend to design and make based on a simple design criteria. • Develop their ideas through talk and drawings and label parts. Make templates and mock ups of their ideas using different materials, construction kits or using ICT.	• Plan by suggesting what to do next. • Select from a range of tools, materials and components according to their characteristics and explain their choices. • Confidently follows procedures for safety and hygiene. • Use a range of materials, components, construction kits, textiles, food ingredients and mechanical products. • Begin to accurately measure, mark out, cut and shape a range of materials and components. • Begin to accurately assemble, join and combine materials and components. • Build structures, exploring how they can be made stronger, stiffer and more stable. See focused practical task (FPT) • Begin to use finishing techniques, based on own ideas and those from art and design sessions.	• Talk about their design ideas and what they are making. • Make simple judgements about their products and ideas against design criteria. • Start to talk and write about their products as they develop, identifying strengths and how they might make it better. • Begin to refer to their design criteria as they design and make. • Explore what products are, what they are made from, who they are for, how they are used and where they might be used. • Think about whether products can be recycled. • Talk about likes and dislikes of existing products and give reasons. • With confidence talk about their ideas, saying what they like and dislike about them.	• Begin to select tools and materials; use correct vocabulary to name and describe them. • Understand the working characteristics of materials and components. • Know about the movement of simple mechanisms such as wheels and axles. • Understand how freestanding structures can be made stronger, stiffer and more stable. • Use the correct technical vocabulary for projects.	• Understand that food comes from plants or animals. • Know that food has to be farmed, grown elsewhere (e.g. home) or caught. • Understand how to name and sort foods into the five groups in 'The Eat well plate'. • Know that everyone should eat at least five portions of fruit and vegetables every day. • Demonstrate how to prepare simple dishes safely and hygienically, without using a heat source. • Demonstrate how to use techniques such as cutting, peeling and grating. • Use a range of ingredients • To cook safely on an open fire