The Design and Technology Curriculum at John T Rice Infant and Nursery School

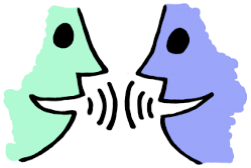
KS1 Progression

Our Design Technology Curriculum Intent

At John T Rice Infant and Nursery School we recognise that Design Technology is important in deepening children's knowledge and understanding of a range of textiles, mechanisms, materials, electrical and mechanical components and food technology which will provide the foundation to design, create and evaluate products to solve real and relevant problems within a variety of contexts.

Our Curriculum Drivers.

As a school we have developed 3 curriculum drivers that shape our curriculum, bring out the aims and values of our school and respond to the needs of our school community.

Communication Skills	Mental Health and Resilience	The Wider World
	 	
Our children will be able to communicate effectively with adults and peers using a range of vocabulary and leave us being able to read, write and have a good mathematical knowledge.	Our children will understand how to lead a healthy lifestyle and be mindful of their mental well-being. They will grow as independent and resilient learners	Our children will understand about a range of multi-cultural and diverse communities to support them in becoming a global citizen.

A Design Technologist leaving John T Rice Infant and Nursery School will leave with a passion for developing their ideas into innovative projects using their creative, technical and practical expertise. As a result of our Design and Technology curriculum, our children gain an understanding of designing, making and evaluating projects and the implications of the ever-changing technological world, today and in the future.

Progression Document: Design Technology

EYFS ELG: Expressive Arts and Design- Creating with Materials	National Curriculum Subject Content
EYFS	**KEY STAGE ONE**
They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	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 Pupils should be taught to: • 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

Design Technology Themes over the year			
Cycle A			
	Autumn 1	Autumn 2	Spring 2
KS1	Designing, making and evaluating a Vegetable Soup	Designing, making and evaluating a wheeled car.	Designing, making and evaluating a sock puppet.
	Food technology-Vegetable soup (skill focus-chopping, cutting and peeling) **Food technology-Reindeer biscuits (skill focus-weighing and mixing)**	**Food technology-** **Cheese scones (skill focus-weighing and mixing)** **Food technology-Honey cakes (skill focus-weighing, mixing, presentation)**	**Food technology-Ladybird muffin pizzas (skill focus-chopping, cutting, grating and presentation)** **Food technology-Seahorse biscuits (skill focus-weighing, mixing, presentation)**

Design Technology Themes over the year			
Cycle B			
	Autumn 1	Spring 2	Summer 2
KS1	Designing, making and evaluating a fruit salad.	Designing, making and evaluating a moving card.	Designing, making and evaluating a lighthouse
	Food technology-Fruit salad (skill focus-chopping, cutting and peeling) **Food technology-Christmas Bauble biscuits (skill focus-weighing and mixing)**	**Food technology-** **Lamington cupcakes from Australia (skill focus-weighing and mixing)** **Food technology-Bread rolls (skill focus-weighing, mixing, presentation)**	**Food technology-Tiger muffin pizzas (skill focus-chopping, cutting, grating and presentation)** **Food technology-Seaside cakes (skill focus-weighing, mixing, presentation)**

	Progression in Key Design Technology Vocabulary	
	YEAR 1	**YEAR 2**
Technical Knowledge	build, tower, bridge, construction, materials, pushes, pulls, structure, strengthen, support, explore, sliders, wheels, objects	product, stronger, weaker, explore, levers, axles, inventions, function, practically
Design	design, designers, idea, product, reason, purpose, final design, factories, machinery	generated, target group, key audience, improved, modified, manually, process, produce, key design features
Make	hold, scissors, cut, join, materials, glue, sellotape, blu-tack, equipment, create, peg board, pegs	tracing, simple lines, shapes, patterns, template, create, investigate, methods, joining, threading, threading board, equipment, simple levers, simple moving image, lever
Evaluate	evaluate, improve, product	strengths, suggestions,
Food Technology	meat, animals, fish, vegetables, fruit, plants, dairy products, yoghurt, cheese, milk, foods, sugar, fat, healthy, unhealthy, knife, peel, cut, chop, spread	sources, farmed, grown, caught, natural food items, artificial, snacks, teeth, eatwell plate, food swap alternatives, proportions, food group, evaluate, food product, aspects, taste, smell, appearance

Skills and Knowledge progression

Breadth of Study	Year 1	Year 2
Designing 	• To be able to think of some design ideas of their own. • To be able to make simple plans before making objects e.g., drawings, arranging pieces of construction before building. • To be able to talk with others about what they want to do and how they want to construct their product.	• To be able to think of ideas and plan what to do. • To be able to choose the best tools and materials to make something and explain why these are the best. • To be able to describe their design by using words, pictures, diagrams and models.
Making 	• To be able to join things e.g., materials or components, together in different ways. • To be able to select appropriate resources and tools for their building projects. • To be able to cut materials using scissors. • **Mechanisms** – to be able to make a product that moves and explain why they have chosen moving parts. • **Structures** - to be able to build structures and explore how to make them stronger, stiffer and more stable.	• To be able to explain what they are making and which tools they are using. • To be able to incorporate some type of movement into models e.g. levers, sliders, wheels and axles. • To be able to make suitable choices as which materials to use for construction. • To be able to measure materials to use in a model or structure. • To be able to join materials in different ways. • **Structures** - to be able to build structures and explore how to make them stronger, stiffer and more stable.
Evaluating	• To be able to describe how something works. • To be able to talk about their own work and work that other people have done (existing products).	• To be able to explain what went well with their work. • To be able to explain what they would improve if they were to do it again.

		
Cooking and Nutrition 	• To know and understand the principles of a healthy diet in order to prepare a fruit salad and a vegetable soup. • To know where food comes from. • To know the importance of washing hands before working with food. • To be able to use a knife with support to cut food safely. • To be able to use a peeler with support to peel food safely. • To be able to use a grater with support to grate food safely. • To be able to describe the taste of different food.	• To know, understand and explain principles of a healthy diet in order to prepare a fruit salad and a vegetable soup. • To know where different food comes from and talk about it. • To know the importance of washing hands and making sure surfaces are clean when working with food. • To be able to use a knife to cut food safely. • To be able to use a peeler to peel food safely. • To be able to use a grater to grate food safely. • To be able to describe the textures of different foods.