

D & T

Curriculum Plan

National Curriculum
From September 2014



Southridge First School

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.

Aims:

The national curriculum for design and technology aims to ensure that all pupils:

- . develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
- . build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- . critique, evaluate and test their ideas and products and the work of others
- . understand and apply the principles of nutrition and learn how to cook.

Subject content for 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, such as the home and school, gardens and playgrounds, the local community, industry and the wider environment

Pupils should be taught:**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 such as 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, such as levers, sliders, wheels and axles, in their products.

<p>Subject content for Key Stage 2</p> <p>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, such as the home, school, leisure, culture, enterprise, industry and the wider environment.</p> <p>Pupils should be taught:</p> <p><u>Design</u></p> <ul style="list-style-type: none"> . 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 <p><u>Make</u></p> <ul style="list-style-type: none"> . select from and use a wider range of tools and equipment to perform practical tasks, such as 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 <p><u>Evaluate</u></p> <ul style="list-style-type: none"> . 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 <p><u>Technical knowledge</u></p> <ul style="list-style-type: none"> . apply their understanding of how to strengthen, stiffen and reinforce more complex structures . understand and use mechanical systems in their products, such as gears, pulleys, cams, levers and linkages . understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs, buzzers and motors . apply their understanding of computing to programme, monitor and control their products.
<p>Attainment targets:</p> <p>By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.</p>
<p>Cooking & Nutrition</p>
<p>Subject content for Key Stage 1</p> <p>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.</p> <p>Pupils should be taught:</p>

- . use basic principles of a healthy and varied diet to prepare dishes, understand where food comes from.

Subject content for Key Stage 2

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:

- . 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.

Year 1	
Autumn 1	<p>Jurassic Forest</p> <p>Aspect of D&T</p> <ul style="list-style-type: none"> Structures <p>Focus</p> <ul style="list-style-type: none"> Freestanding structures <p>What could children design, make and evaluate?</p> <ul style="list-style-type: none"> enclosures for farm or zoo animals playground/park/garden furniture bridge for Billy Goats Gruff playground equipment furniture for the Three Bears etc
Autumn 2	<p>Welcome to Pirate Island</p> <p>Aspect of D&T</p> <p>Textiles</p> <p>Focus</p> <p>Templates and joining techniques</p> <p>What could children design, make and evaluate?</p> <ul style="list-style-type: none"> glove puppet finger puppet simple bag clothes for teddy/soft toy/class doll fabric placemat etc

Spring 1	<p>Amazing Animals</p> <p>Aspect of D&T</p> <p>Mechanisms</p> <p>Focus</p> <p>Wheels and axles</p> <p>What could children design, make and evaluate?</p> <ul style="list-style-type: none"> · push/pull toys e.g. emergency service vehicle · carnival float · farm vehicle · clown's car · vehicle for imaginary/story character · shopping trolley etc
Spring 2	<p>Growing</p> <p>Aspect of D&T</p> <ul style="list-style-type: none"> · Food – Cooking and Nutrition <p>Focus</p> <ul style="list-style-type: none"> · Preparing fruit and vegetables <p>What could children design, make and evaluate?</p> <ul style="list-style-type: none"> · fruit salads · fruit yogurt · fruit drinks · fruit jelly · fruit smoothies · vegetable salads · fruit and vegetable kebabs etc

Summer 1	<p>Castles</p> <p>Aspect of D&T</p> <p>Mechanisms</p> <p>Focus</p> <p>Sliders and Levers</p> <p>What could children design, make and evaluate?</p> <ul style="list-style-type: none">· class/group storybook· poster· display· greetings card· class/group information book· storyboard etc.
Summer 2	<p>Explorers</p> <p><u>Enquiry Based Learning Challenge</u></p> <ul style="list-style-type: none">· Explorer Challenge

Year 2	
Autumn 1	<p>Beside the Seaside</p> <p>Aspect of D&T</p> <ul style="list-style-type: none"> Food – Cooking and Nutrition <p>Focus</p> <ul style="list-style-type: none"> Preparing fruit and vegetables <p>What could children design, make and evaluate?</p> <ul style="list-style-type: none"> fruit salads fruit yogurt fruit drinks fruit jelly fruit smoothies vegetable salads fruit and vegetable kebabs etc
Autumn 2	<p>Fireworks</p> <p>Aspect of D&T</p> <ul style="list-style-type: none"> Mechanisms <p>Focus</p> <ul style="list-style-type: none"> Sliders and Levers <p>What could children design, make and evaluate?</p> <ul style="list-style-type: none"> class/group storybook poster display greetings card class/group information book storyboard etc.

Spring 1	<p>Living on an Island</p> <p>Aspect of D&T</p> <ul style="list-style-type: none">- Textiles <p>Focus</p> <ul style="list-style-type: none">- Templates and joining techniques <p>What could children design, make and evaluate?</p> <ul style="list-style-type: none">· glove puppet· finger puppet· simple bag· clothes for teddy/soft toy/class doll· fabric placemat other etc
Spring 2	<p>Local Heros</p> <p><u>Enquiry Based Learning Challenge</u></p> <ul style="list-style-type: none">- Boat Builder Challenge
Summer 1	<p>Take a Trip Around the World</p> <p>Aspect of D&T</p> <ul style="list-style-type: none">- Structures <p>Focus</p> <ul style="list-style-type: none">- Freestanding structures <p>What could children design, make and evaluate?</p> <ul style="list-style-type: none">· enclosures for farm or zoo animals· playground/park/garden furniture· bridges· playground equipment

	<ul style="list-style-type: none">· furniture for story characters etc
Summer 2	<p>Wheels, Wings and Other Things</p> <p>Aspect of D&T</p> <ul style="list-style-type: none">- Mechanisms <p>Focus</p> <ul style="list-style-type: none">- Wheels and axles <p>What could children design, make and evaluate?</p> <ul style="list-style-type: none">· push/pull toys e.g. emergency service vehicle· carnival float· farm vehicle· clown's car· vehicle for imaginary/story character· shopping trolley etc

Year 3	
Autumn 1	<p>How Did Life Change For Children In World War 2?</p> <p>Aspect of D&T</p> <ul style="list-style-type: none"> - Electrical systems <p>Focus</p> <ul style="list-style-type: none"> - Simple circuits and switches <p>What could children design, make and evaluate?</p> <ul style="list-style-type: none"> · siren for a toy vehicle · reading light, night light · noise-making toy · illuminated sign · torches · table lamp · lighting for display hands-free head lamp · buzzer for school office etc
Autumn 2	<p>Where Are We In The World?</p> <p>Aspect of D&T</p> <ul style="list-style-type: none"> - Food <p>Focus</p> <ul style="list-style-type: none"> - Healthy and varied diet <p>What could children design, make and evaluate?</p> <ul style="list-style-type: none"> · sandwiches · wraps , rolls · pitta pockets · blinis · rice cakes

	<ul style="list-style-type: none"> · toasties etc · snack bar · salad snacks
	<p>Who First Lived In Britain?</p> <p>Aspect of D&T</p> <ul style="list-style-type: none"> - Structures <p>Focus</p> <ul style="list-style-type: none"> - Shell structures <p>What could children design, make and evaluate?</p> <ul style="list-style-type: none"> - gift boxes/containers - desk tidy - disposable/recyclable lunchboxes - packaging - cool boxes - party boxes - keep safe boxes - mystery boxes
Spring 2	<p>What Makes the earth Angry?</p> <p>Aspect of D&T</p> <ul style="list-style-type: none"> - Mechanicalsystems <p>Focus</p> <ul style="list-style-type: none"> - Levers and linkages <p>What could children design, make and evaluate?</p> <ul style="list-style-type: none"> · story book · poster · class display · greetings card · information book · storyboard · etc

Summer 1	<u>Enquiry Based Learning Project</u> <ul style="list-style-type: none">- Design, Make and Evaluate<ul style="list-style-type: none">· Roman Catapult Challenge
Summer 2	What Is Life Like In France? Aspect of D&T <ul style="list-style-type: none">- Textiles Focus <ul style="list-style-type: none">- 2-D shape to 3-D product What could children design, make and evaluate? <ul style="list-style-type: none">· purse/wallet· soft toy/mascot· apron· fashion accessory· beach bag· shoe bag· pencil case· story sack

Year 4

Autumn 1	<p>Ancient Egypt</p> <p>Aspect of D&T</p> <ul style="list-style-type: none"> - Mechanical systems <p>Focus</p> <ul style="list-style-type: none"> - Levers and linkages <p>What could children design, make and evaluate?</p> <ul style="list-style-type: none"> · story book · poster · class display · greetings card · information book · storyboard etc
Autumn 2	<p>The Water Cycle and Rivers</p> <p><u>Enquiry Based Learning Project</u></p> <ul style="list-style-type: none"> · How do you carry water? <ul style="list-style-type: none"> - Children explore and recreate ancient irrigation systems
Spring 1	<p>The Rainforest</p> <p>Aspect of D&T</p> <ul style="list-style-type: none"> - Textiles <p>Focus</p> <ul style="list-style-type: none"> - 2-D shape to 3-D product <p>What could children design, make and evaluate?</p>

	<ul style="list-style-type: none"> · purse/wallet · soft toy/mascot · apron · fashion accessory · beach bag · shoe bag · pencil case · story sack
Spring 2	<p>Producers, predators and Prey</p> <p>Aspect of D&T</p> <ul style="list-style-type: none"> - Food <p>Focus</p> <ul style="list-style-type: none"> - Celebrating culture and seasonality <p>What could children design, make and evaluate?</p> <ul style="list-style-type: none"> · bread · pizza · savoury biscuits · savoury scones · savoury muffin · cereal snack · soup
Summer 1	<p>Aspect of D&T</p> <ul style="list-style-type: none"> - Electrical systems <p>Focus</p>

	<ul style="list-style-type: none"> - Simple circuits and switches <p>What could children design, make and evaluate?</p> <ul style="list-style-type: none"> · siren for a toy vehicle · reading light · noise-making toy · nightlight · illuminated sign · torches · table lamp · lighting for display hands-free head lamp · buzzer for school office
Summer 2	<p>Why is Newcastle Such A Great Place To Live?</p> <p>Aspect of D&T</p> <ul style="list-style-type: none"> - Structures <p>Focus</p> <ul style="list-style-type: none"> - Shell structures <p>What could children design, make and evaluate?</p> <ul style="list-style-type: none"> · gift boxes/containers · desk tidy · disposable/recyclable lunchboxes · packaging · cool boxes · party boxes · keep safe boxes · mystery boxes