

*'...those who hope in the LORD will renew their strength.  
They will soar on wings like eagles; they will run and not grow weary,  
they will walk and not be faint.'* Isaiah 40:31

connect | nurture | aspire | learn | excel | hope

# Reculver Church of England Primary School



## Design and Technology Policy

Date adopted by Local Governing Body: December 2017

Date of next Review: December 2019

We recognise that the personal development of pupils, spiritually, morally, socially and culturally, plays a significant part in their ability to learn and achieve. We therefore aim to provide an education that provides pupils with opportunities to explore and develop their own values and beliefs, spiritual awareness, high standards of personal behaviour, a positive caring attitude towards other people, an understanding of their social and cultural traditions and an appreciation of the diversity and richness of other cultures. This is a whole school issue. Design and Technology has a contribution to make to the child's spiritual, moral, social and cultural development and opportunities for this will be planned in each topic area of the curriculum.

### **Design and Technology Policy**

Design and technology is an inspiring, practical subject that uses pupil's creativity and imagination, to design and make products. Children can learn to solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. Design and Technology provides great cross curricular opportunities as it draws on a range of subject disciplines including mathematics, science, engineering, computing and art. 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. By providing high-quality design and technology opportunities pupils are able to learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens.

### **Aim and Objectives**

The teaching and learning of Design and Technology at Reculver Primary School aims to provide opportunities for pupils to develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world. Pupils will:

- 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

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.

#### **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 (for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment).

When designing and making, pupils will 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

## **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. 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 will 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

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 will be taught to:

### Key stage 1

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

### Key stage 2

- 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.

## The Organisation of Design and Technology at Reculver School

### Early Years

The teaching of Design and Technology in reception will be in accordance with Development Matters. The Early Years Foundation Stage Curriculum and the Early Learning Goals, further information can be obtained in the Early Years Foundation Stage Policy.

### Key Stage 1 and 2

In Key Stage 1 and 2 Design and Technology is taught through the cross curricular topics (Inspire curriculum) where all elements of the programme of study for Design and Technology are included. See table below for more information:

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 1	<p><b>Who am I?</b> To design a nameplate to represent themselves.</p> <p>To design and make a collage poster reflecting their personality. To generate, develop, model and communicate their ideas through talking, drawing and templates.</p>	<p><b>The Big Build</b> To use my ideas to make something. To explain to someone else how I want to make my product. To make a simple plan before making (plan and design a house for the 3 Little Pigs) To choose appropriate resources and tools. To make my model stronger (adapt a house for the 3 Little Pigs) To describe how something works (3 Little Pigs house). To build structures, exploring how they can be made stronger, stiffer and more stable To evaluate their ideas and products against design criteria To design and make wrapping paper.</p>	<p><b>Where shall we post it?</b> <b>Design and make souvenirs.</b> Design purposeful, functional, appealing products for themselves and other users based on design criteria To select from and use a range of tools and equipment to perform practical tasks</p>	<p><b>To the Rescue</b> To make a product that moves (Easter Card) To explore and use mechanisms, sliders and levers. To select from and use a range of tools and equipment to perform practical tasks</p>	<p><b>The Potting Shed</b></p>	<p><b>Brilliant Bodies and Animal Allsorts</b>  To make my model stronger. To explain to someone else how I want to make my product. To choose appropriate resources and tools. (Clay mini beasts) To choose appropriate resources and tools. To explain to someone else how I want to make my product. (Puppets)</p>
Year 2	<p><b>What I need to be me</b>  To design and create a fruit smoothie using a range of tools.</p>	<p><b>Through the keyhole</b> To use sewing skills on textiles to create a bookmark. To join materials and components using a slotted card technique to make angels and robins.</p>	<p><b>Flying away</b>  To create gliders and explain what went well with my work.</p>	<p><b>Town Mouse and Country Mouse</b></p>	<p><b>Sewing and Growing</b></p>	<p><b>Trading Places</b></p>

Year 3	<b>Animals &amp; humans</b> Cooking and nutrition -To describe how food ingredients come together. -To measure accurately. -To know how to be both hygienic and safe when using food. To understand the principles of a healthy balanced diet.	<b>What's the attraction?</b>	<b>Around the world</b> Sculptures -To work accurately to measure, make cuts and make holes. -To follow a step by step plan choosing the right equipment and materials. -To prove that my design meets a set criteria. -To design a product and make sure it looks attractive.	<b>Shake rattle and roll</b>	<b>Rotten romans</b> Roman Clay Pots -To select the most appropriate tools and techniques for the task. -To follow a step by step plan choosing the right equipment and materials. -To sculpt clay and other mouldable materials.	<b>Rotten romans</b>
Year 4	<b>Where does my food go?</b>	<b>Batteries not included / Invasion</b> Anglo Saxon Day Viking Settlements -To work accurately to measure, make cuts and make holes. -To follow a step by step plan choosing the right equipment and materials. -To choose a textile for both its suitability and its appearance.	<b>Sounding off / Iceland</b>	<b>Vile Victorians</b> Trip to Victorian Museum - Kent Life Centre	<b>Amazing Amazon</b> -To select the most appropriate tools and techniques for the task. -To follow a step by step plan choosing the right equipment and materials. -To choose a textile for both its suitability and its appearance.	<b>A small world</b>
Year 5	<b>To the stars...</b> To use recyclable materials to make a rocket - papier mache, paint - evaluate.	<b>The Ancient Greeks</b>	<b>Poles Apart</b> To design a sledge for Shackleton with the least amount of friction	<b>Fever, Fire and Fashion</b> To design and make packaging for a Stuarts style cosmetic product	<b>Rites and Rituals</b> Pizza Day - Methods for making pizza (ingredients, instructions)	<b>Rites and Rituals/The World is our Oyster</b>

Year 6	<b>Who is taking control?</b> To follow and refine my plans. To justify plans in a convincing way. To understand and use electrical systems in their products- through science this term- making robots/steady hand games.	<b>What's happening now? &amp; A Voyage of Discovery</b>	<b>Who's the mummy?</b> To follow and refine my plans. To justify plans in a convincing way. I can show that I can test and evaluate my products I can evaluate my product against clear criteria. (Making of a Mummy's Tomb and Canopic Jars) To understand and apply the principles of a healthy diet- through science	<b>Battle of Britain</b> To follow and refine my plans. To justify plans in a convincing way. I can show that I can test and evaluate my products I can evaluate my product against clear criteria. (Anderson Shelters- to apply their understanding of how to strengthen, stiffen and reinforce more complex structures)	<b>Enterprise Week</b> To use market research to inform my plans and ideas. I can work within a budget I can show that I consider culture and society in my plans in a convincing way.	<b>You're Hired</b> To use market research to inform my plans and ideas. To follow and refine my plans. I can work within a budget I can show that I consider culture and society in my plans in a convincing way.
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\* Due to the mixed year group children will be following a two year rolling programme. Curriculum A started in 2016-2017 and Curriculum B will be 2017-2018 and then continue in this pattern in subsequent years.

## Planning

Medium term and lessons plans are provided through our Inspire curriculum scheme of work. Teachers are required to adapt these plans to suit the needs of the children in the class and also annotate plans to inform assessment for learning.

## Principles of Teaching and Learning

**Inclusion and Differentiation:** All children must have regular access to Design and Technology appropriate to their stage of development. Challenge for all is integral to our teaching and we aim to encourage all pupils to reach their full potential through the provision of varied opportunities. Work must be differentiated to aid children's learning. Also, more-able children should be given open-ended tasks

and be given opportunities for further research and more challenging studies. We recognise that our curriculum planning must allow pupils to gain a progressively deeper understanding and competency as they move through our school. Any specific individual's needs must be identified in their Educational Health Care Plan.

**Breadth and Balance:** Over each key stage Design and Technology will be studied from a variety of perspectives; political, economic, social, religious cultural and aesthetic. Planning for lessons ensures a balance of concepts, skills and perspectives through the key stage.

**Teaching and Learning Styles:** The expectations is that teaching and learning styles will differ from each lesson and will address the needs and wants of the children and the needs and wants of the subject being taught. At Reculver we utilise many teaching styles and strategies to ensure that all pupils are enabled to reach their full potential.

**Variety:** Opportunities are provided for children to learn from a range of sources of evidence. Children are encouraged to ask questions for themselves. Across the school there are varied opportunities which develop children's designing, making and evaluating abilities. Children also have the ability to evaluate and investigate existing products. Various tools, materials and resources are also available to develop these skills and abilities appropriately.

Food technology opportunities are also explored, allowing children to cook with a variety of healthy foods. These opportunities have the ability to provide life skills, a love of cooking and the ability to feed themselves. Children are taught where foods come from as well as how to safely use appropriate kitchen utensils.

### **Health and Safety**

The safe use of resources, tools, equipment, food and kitchen appliances is at the forefront of every DT session.

Further information can be found in the Health and Safety Policy.

### **Equal Opportunities**

Every child, regardless of age ability, sex or race will have equal opportunities to access the full curriculum for Design and Technology through differentiation.

### **Marking**

Marking is completed in line with the school marking policy.

### **Assessment, Recording and Reporting**

Teachers will make regular assessments of pupils' progress in Design and Technology. Parents will be informed through the school's reporting system. Assessment should be active and participatory, addressing progress in development of skills and action as well as knowledge and understanding. It should allow opportunities to reflect on experiences, pose questions, make judgements in the light of evidence about their strengths and needs and plan how to make progress. Children individually and with their peers, should have the opportunity to reflect on their activities, share their reactions and make sense of the experience in relations to themselves and others. They can identify what went well, what went wrong and why. Gradually they can learn to draw conclusions about their own strengths and weaknesses.

### **Resources**

Resources for each year group are to be kept in the cupboards in the small hall and storage area in the large hall. These are audited and added to throughout the year when required.

### **Subject Leader's Role**

The Design and Technology Subject Leader will:

- Act as consultant and advisor to staff.
- Report on standards achieved in Design and Technology.
- Work within the allocated budget for Design and Technology in the management of resources.
- Order and monitor the use and storage of Design and Technology resources.
- Monitor Design and Technology planning and teaching in accordance with the monitoring schedule.
- Liaise with the Governing Body with regards to the development of Design and Technology.
- Seek opportunities to develop cross-phase links.
- Identify and deliver Design and Technology training opportunities.

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