REDESDALE PRIMARY SCHOOL

DESIGN and TECHNOLOGY POLICY

Introduction

Redesdale Primary School is a happy, vibrant school where a love of learning is encouraged and celebrated. We are passionate about providing our pupils with enriching real-life experiences in all aspects of school life. We nurture and inspire children to develop lifelong communication skills in a safe and comforting environment. We believe that children will flourish if given the skills to encourage emotional intelligence that can be utilised in all areas of life. Our Design and Technology Curriculum has been carefully developed with this in mind.
The purpose of this document is to provide for teachers, parents and governors a clear summary of the role of Design and Technology within the broad and balanced curriculum offered at Redesdale Primary School.
Our Curriculum Drivers are strongly supported through, and embedded in, the delivery of our Design and Technology whole-school approach to the curriculum. The subject is extremely stimulating for children as it is part of their immediate experience. The curriculum is planned so children can combine practical skills with an understanding of aesthetic, social and environmental issues, as well as product functions. This allows them to reflect and evaluate past and present design and technology and potential innovators in the future.

Objectives

- At Redesdale Primary we have worked across all year groups to secure that Design Technology skills are covered and develop as the children move through the school.
- Children will be taught the language of DT (design, form, function, structure, mechanism, electrical control) and be encouraged to use this language when discussing their work.
- They will have access to and be able to select from a range of materials and be taught to recognise when the use of certain materials is appropriate.
- They will be taught the health and safety aspects of the materials and techniques they use.
- They will be encouraged to use drawing and sketches to explore ideas and different ways of representing these ideas.
- Children will be introduced to and encouraged to discuss, the work of other inspiring engineers and architects.
  Children will be given opportunities to work individually, in pairs and groups when appropriate, and to co-operate when sharing ideas, materials and resources.
- Teachers will use additional adults to support the work of individuals or groups of children.
- Children will be expected to discuss their own and the work of others constructively and evaluate the final outcome of that work.
- Consider the importance of quality when designing and making.
- Ensure the product meets their design specification and is sufficiently well finished to carry out its function.
- Work on focused tasks designed to develop and practise specific skills and add to their knowledge.
- Feedback will be given throughout.
- Children will use ICT and appropriate software to enhance their skills in drawing and for research.

Aims

At Redesdale Primary School we aim to develop children's knowledge, understanding and skills so they can:

- To enable children to become creative problem-solvers, both as individuals and as part of a team.
- To enable them to identify needs and opportunities and to respond by developing ideas, and eventually making a range of products.
- To enable children to talk about how things work, (using appropriate vocabulary) and to draw and model their ideas.
- To develop imaginative thinking in children and to enable them to talk about what they like and dislike when designing and making things.
- To foster enjoyment, satisfaction and purpose in designing and making things.
- To help children to take account of the necessity for safety, both for themselves and those around them. To encourage children to select appropriate tools and techniques for making a product, whilst following safe procedures.
- To help children develop skills and knowledge of tools and different materials.
- To help children develop an understanding of food products and their impact of their health.

Curriculum

At Redesdale Primary School, knowledge, understanding and skills are built upon and developed in each year group, from Nursery to Year 6. 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.

EYFS

We aim to provide a rich environment for our youngest children to thrive in where we encourage and value creativity. We relate the children's creative development to the objectives set out in the Early Years Framework, which underpin the curriculum planning for children aged three to five. The Expressive Arts and Design strand includes art, design, technology, music, dance, role-play and imaginative play. This broad range of experiences encourages children to make connections between one area of learning and another and extends their understanding of the world.

Key Stage 1

Throughout years 1 and 2, children will:

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.

Cooking and Nutrition

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

Key Stage 2

Throughout years 3, 4, 5 and 6, children will:

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

- 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.

Health and Safety

A safe working environment and ways of working need to be encouraged from the earliest stage and safe practices should be understood by all. All areas must be in the direct vision of the teacher and there should be enough space for each child or group to work comfortably. Teachers should be aware of any physical limitations which a pupil may suffer and make suitable arrangements to allow the pupil to operate sensibly.

Working with Food Cooking utensils and work areas should be kept meticulously clean. Children should learn simple personal hygiene rules such as wearing a clean apron, washing hands before handling food and not eating food as they are cooking.

Tools - Training children to use tools properly:

(a) Saws Never saw directly on the table. Always use a bench hook or G-clamp. Show the children how to start a saw cut by drawing the saw towards themselves to make a notch. When sawing, the

effort is needed on the push stroke. Keep your hand and arm in line with the saw cut and your thumb tucked in. Support the material when nearly finished to prevent splintering.

(b) Drills Children need to be shown how to how to hold a hand drill and how to keep it at right angles to their work. When drilling, turn the handle in a clockwise direction and continue turning the same way when removing the drill bit from the hole.

(c) Glue guns Children should be taught how to use glue guns sensibly and safely.

Planning

We carry out the curriculum planning for Design and Technology in three phases (long-term, medium-term and short-term).

- The subject overview shows the units that the children study in each term during each key stage. Our overview for Design and Technology shows how teaching units are distributed across the year groups, and how these fit together to ensure progression within the curriculum plan. This is devised by the subject co-ordinators.
- The medium-term plans are shown on each Unit of Study overview created by class teachers. These plans give details of the units of work for each term. They identify the key learning objectives for each unit covered. The subject leader is responsible for reviewing these plans alongside class teachers.
- The short- term plans are weekly lesson plans and are written by the class teacher. These lists the specific learning objectives, a brief outline of the tasks for each lesson and expected outcomes. The class teacher is responsible for keeping these individual plans, and the class teacher and subject leader will discuss them on an informal basis.

Progression Map

The units studied in Design and Technology are planned to build on prior learning. While we offer opportunities for children of all abilities to develop their skills and knowledge in each unit, we also plan progression into the scheme of work, so that the children are increasingly challenged as they move up through the school.

Parental involvement

Parents are encouraged to support the implementation of Design and Technology where possible by encouraging use Design and Technology skills at home during home-learning tasks and through the school website.

Inclusion

At Redesdale, we teach Design and Technology to all children, whatever their ability and individual needs. We value technology in the role of supporting children and their needs. Design and Technology forms part of the school curriculum policy to provide a broad and balanced education to all children. Through our teaching we provide learning opportunities that enable all pupils to make good progress. We strive hard to meet the needs of those pupils with special educational needs, those with disabilities, those who are more able, and those learning English as an additional language, and we take all reasonable steps to achieve this. For further details see separate policies: Special Educational Needs; More Able Pupils; English as an Additional Language (EAL).

Assessment for learning

Teachers will assess children’s work in Design and Technology by making informal judgements during lessons. On completion of a piece of work, the teacher assesses the work, and uses this assessment to plan for future learning. Written or verbal feedback is given to the child to help guide

his/her progress. Older children are encouraged to make judgements about how they can improve their own work.

Seesaw

Seesaw is a child-driven digital portfolio. Teachers can empower children to create, reflect, share, and collaborate on their projects. Children "show what they know" using photos, videos, drawings and text. Children in Key Stage One and Two will use Seesaw to save Design and Technology work digitally and the subject leader will monitor and review progression throughout these key stages.

Target Tracker

Target Tracker is the complete assessment education software package supporting entry, analysis and sharing of pupil progress and attainment data through Early Years. Teaching and support staff within Early Years will digitally store their observations and notes on Target Tracker. The subject leader will liaise with Early Years staff to monitor and review progress of children within Early Years.

Monitor and Review

The monitoring of the standards of the children's work and of the quality of teaching in Design and Technology is the responsibility of the subject leader. The subject leader is also responsible for supporting colleagues in their teaching of Design and Technology., for keeping informed about current developments in the subject, and for providing a strategic lead and direction for Design and Technology in the school. The subject leader gives the head teacher an annual summary report (action plan) in which s/he evaluates the strengths and weaknesses in the subject and indicates areas for further improvement. The subject leader has specially-allocated time for carrying out the vital tasks of reviewing samples of the children's work, and of visiting classes to observe the teaching of Design and Technology.

Reviewing this Policy

This policy will be reviewed at least every three years.