



# CARNFORTH COMMUNITY PRIMARY SCHOOL

## Design and Technology Policy

### Intent:

At Carnforth Community Primary School, children receive a design and technology (D&T) curriculum which allows them to exercise their creativity through designing and making. The children are taught to combine their designing and making skills with knowledge and understanding in order to design and make a product. Skills are taught progressively to ensure that all children are able to learn and practice in order to develop as they move through the school. Evaluation is an integral part of the design process and allows children to adapt and improve their product, this is a key skill which they need throughout their life. D&T allows children to apply the knowledge and skills learned in other subjects, particularly Maths, Science, Art and Outdoor Learning. Children's interests are captured through theme learning, ensuring that links are made in a cross curricular way, giving children motivation and meaning for their learning. Children are taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in children also opens 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. Our whole curriculum is shaped by our school vision which aims to enable all children, regardless of background, ability, additional needs, to flourish to become the very best version of themselves they can possibly be as underpinned in our motto 'Believe and Achieve'. We teach the National Curriculum, supported by a clear skills and knowledge progression. This ensures that skills and knowledge are built on year by year and sequenced appropriately to maximise learning for all children. All teaching of D&T should follow the design, make and evaluate cycle. Each stage should be rooted in technical knowledge. The design process should be rooted in real life, relevant contexts to give meaning to learning. While making, children should be given choice and a range of tools to choose freely from. To evaluate, children should be able to evaluate their own products against a design criteria. Each of these steps should be rooted in technical knowledge and vocabulary. D&T should be taught to a high standard, where each of the stages should be given equal weight.

Design and Technology prepares children to take part in the development of today's rapidly changing world. Creative thinking encourages children to make positive changes to their quality of life. The subject encourages children to become independent and creative problem-solvers, both as individuals and as part of a team. It enables them to identify needs and opportunities and to respond by developing ideas and eventually making products and systems. Through the study of Design and Technology they combine practical skills with an understanding of aesthetic, social and environmental issues, as well as functions and industrial practices. This allows them to reflect on and

evaluate present and past Design and Technology, its uses and its impacts. Design and Technology helps all children to become discriminating and informed consumers and potential innovators.

We intend our Design Technology curriculum to allow:

- Children to exercise their individual creativity through designing and making products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values.
- Children to combine their designing and making skills with knowledge and understanding.
- Skills to be taught progressively to ensure that all children are able to learn and practice in order to develop as they move through the school.
- Children to explore a range of challenges and find their own creative solutions.
- Children to develop creativity, resilience and problem-solving and critical thinking skills that will equip them not only for the challenges faced in their DT lessons but also challenges they might face in their wider lives.
- Children to apply the knowledge and skills learned in other subjects, particularly Maths, Science and Art and could lead to a wide range of future careers.
- A passion for creativity and individuality where children are inspired to become the nation's next generation of innovative engineers, designers, chefs and crafts people.
- Children's own interests to be captured through topic themed learning, ensuring that links are made in a cross curricular way, giving children motivation and meaning for their learning.

The aims of Design and Technology are:

- to develop imaginative thinking in children and to enable them to talk about what they like and dislike when designing and making;
- to enable children to talk about how things work, and to draw and model their ideas;
- to encourage children to select appropriate tools and techniques for making a product, whilst following safe procedures;
- to explore attitudes towards the made world and how we live and work within it;
- to develop an understanding of technological processes, products, and their manufacture, and their contribution to our society;
- to foster enjoyment, satisfaction and purpose in designing and making.<sup>2</sup>

Teaching and Learning Style

The school uses a variety of teaching and learning styles in Design and Technology lessons. The principal aim is to develop children's knowledge, skills and understanding in design and technology. Teachers ensure that the children apply their knowledge and understanding when developing ideas, planning and making products and then evaluating them. We do this through a mixture of whole-class teaching and individual/group activities. Within lessons, we give children the opportunity both to work on their own and to collaborate with others, listening to other children's ideas and treating these with respect. Children critically evaluate existing products, their own work and that of others. They have the opportunity to use a wide range of materials and resources, including computing.

In all classes there are children of differing ability. We recognise this fact and provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child.

We achieve this through a range of strategies:

- setting common tasks that are open-ended and can have a variety of results;
- setting tasks of increasing difficulty where not all children complete all tasks;
- grouping children by ability and setting different tasks for each group;
- providing a range of challenges through the provision of different resources;
- utilising additional adults to support the work of individual children or small groups.

#### Rationale

Design and Technology involves applying knowledge and skills when designing and making products. The activities undertaken will enable our children to consider the needs of individuals and society within a caring community. Undertaking design and technology activities in school will give the children at Carnforth Community Primary School opportunities to use a range of materials and processes and to work independently or as part of a team. We would hope that the activities undertaken here at Carnforth Community Primary School will also reflect the children's local environment and support them in the wider world. The purpose of this statement is to make it clear how our curriculum should meet the needs of the children of Carnforth Community School.

#### IMPLEMENTATION:

To achieve our intentions, we will:

- Deliver the design technology curriculum through our own schemes of work based on the Carnforth Community Primary School National Curriculum 2014.
- Plan lessons in conjunction with other subjects, based around a cross-curricular topic theme.
- Follow the design, make and evaluate cycle. Each stage should be rooted in technical knowledge. The design process should be rooted in real life, relevant contexts to give meaning to learning.
- While making, children are given choice and a range of tools to choose freely from.
- Ensure that children are able to evaluate their own products against a design criteria. Each of these steps should be rooted in technical knowledge and vocabulary.
- Teach DT to a high standard, where each of the stages should be given equal weight. There should be clear progression across the key stages as they are passed up through each year group.

In KS1 this looks like:

Design:

- Design should be rooted in real life, relevant contexts to give meaning to the learning.
- Planned through appropriate formats: drawing, templates, talking and mock-ups.

Make:

- Children should be given a range of tools for their projects to choose from.
- Children should use a wide range of materials and components; textiles, construction equipment and ingredients.

Evaluate:

- Evaluate existing products.
- Evaluate their own products against design criteria.

In KS2 this looks like:

Design:

- Rooted in real life, relevant contexts to give meaning to the learning.

- Researched designs based on functional, appealing products with purpose.
- Planned by appropriate methods; annotated sketches, cross-sectional diagrams, prototypes, pattern pieces and computer aided design.

Make:

- Children can select from a wider range of tools than KS1.
- Children should use from and select a wider range of materials and components; textiles, construction equipment and ingredients.

Evaluate:

- Evaluations should be in comparison to existing products.
- Children should evaluate against a design criteria.
- Children should understand how key events and individuals have helped shape design and technology globally – products are in context.

**IMPACT:**

Through these implementations, our children will:

- 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 and 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. Children will design and make a range of products. A good quality finish will be expected in all designs and activities made appropriate to the age and ability of the child.
- Children 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.
- Our school's DT teaching will make an essential contribution to the creativity, culture, wealth and well-being of the nation. Children will be assessed using the Lancashire KLIPS to assess key learning and coverage across the school. Monitoring Our curriculum is reviewed and monitored on an annual basis in the Summer Term. This statement of curriculum intent will be reviewed every three years, in the Autumn Term, to reflect any changes made to the curriculum.

### **Early Years Foundation Stage (EYFS)**

During the Early Years Foundation Stage pupils explore and use a variety of media and materials through a combination of child initiated and adult led activities. Adults plan DT activities linked to each topic. Child interests are also explored when they arise and are supported through next step planning.

Children have the opportunity to support their child-initiated play through the continuous provision which gives children access to a variety of DT resources.

#### Indoors -

Construction kits: small and large, junk modelling, deconstruction building, mobilo, duplo, Lego, wooden blocks, stickle bricks, popoids, nuts and bolts, straws and connectors, marble run, wooden blocks, bricks,

Cutting and joining resources: scissors, hole punches, hammers, nails, glue, sellotape, treasury tags, ribbon, split pins, wool, string, nuts and bolts.

Media: paper, card, bags, cardboard boxes, trays.

Embellishments: sequins, glitter, buttons, threads, pom poms, wool, ribbon, stickers.

#### Outdoors-

planks of wood, tyres, den building poles, fabric, canes, crates, pegs, ropes, reels, bricks.

Woodwork area: saws, hammers, screwdrivers, nails, screws, balsa wood, offcuts of soft wood, small wheels.

Children in EYFS have opportunities to learn to:

- Explore the textures, movement, feel and look of different media and materials.
- Respond to a range of media and materials developing an understanding that they manipulate and create effects with these.
- Use different media and materials to express their own ideas.
- Construct with a purpose in mind using a variety of resources.
- Develop skills to use simple tools and techniques competently and appropriately.
- Select appropriate resources for a product and adapt their work where necessary.

### **Contribution of Design and Technology to Teaching in Other Curriculum Areas**

#### **English**

Design and Technology contributes to the teaching of English in our school by providing valuable opportunities to reinforce what the children have been doing during their English lessons.

Discussion, drama and role-play are important ways that we now employ for the children to develop an understanding that people have different views about Design and Technology. The children explain their designs orally or on paper and later, the evaluation of their products require children to articulate their ideas and to compare and contrast their views with those of other people. Through discussion children learn to justify their own views and clarify their design ideas.

#### **Mathematics**

Many of the Design and Technology units provide the opportunity to use their mathematical skills in real-life situations and contexts. The main areas of mathematics covered in these units are:-

- real-life problems
- measure
- shape and space
- handling data

#### **Science**

Many units provide opportunities for children to use and develop scientific knowledge and understanding. There are opportunities for pupils to use their knowledge and understanding through:

- working with a range of materials, eg: a range of fabrics and a range of different types of paper and card.
- working with electrical circuits and switches.
- working with food products related to healthy eating.

#### **Computing**

We use Computing to support Design and Technology teaching when appropriate. Children use software to enhance their skills in designing and making, and use draw-and paint programs to model ideas and make repeating patterns. They use the internet to source a range of information and gain access to images of people, technological images and environments. The children also use Computing to collect information and to present their designs through draw-and-paint programs.

### **Art and Design**

Many units provide opportunities for pupils to use and develop creative skills, knowledge and understanding. Opportunities exist for pupils to use their creative knowledge, skills and understanding through:

- the use of pattern, texture and colour.
- experimenting with visual elements such as pattern and shape.
- investigation of products from a range of cultures
- safe use of materials and tools.

### **Personal, Social and Health Education (PSHE) and Citizenship**

Design and Technology contributes to the teaching of personal, social and health education and citizenship. We encourage the children to develop a sense of responsibility in following safe procedures when making things. They also learn about health and healthy diets. Their work encourages them to be responsible and to set targets to meet deadlines, and they also learn through their understanding of personal hygiene, how to prevent disease from spreading when working with food.

### **Spiritual, Moral, Social and Cultural Development**

The teaching of Design and Technology offers opportunities to support the social development of our children through the way we expect them to work with each other in lessons. Our groupings allow children to work together, and give them the chance to discuss their ideas and feelings about their own work and the work of others. Through their collaborative and co-operative work across a range of activities and experiences in Design and Technology, the children develop respect for the abilities of other children and a better understanding of themselves. They also develop a respect for the environment, for their own health and safety and for that of others. They develop their cultural awareness and understanding, including the contribution that people from other cultures have made to the design and technology industry. They learn to appreciate the value of differences and similarities. A variety of experiences teaches them to appreciate that all people are equally important, and that the needs of individuals are not the same as the needs of groups.

### **Equal opportunities**

Children, irrespective of ability, race, gender or sexual orientation, are given full access to the Design and Technology curriculum, in accordance with the requirements of recent relevant legislation.

### **Teaching**

Design and Technology to Children with Special Needs 6.1 We teach Design and Technology to all children, with due regard to their ability. Design and Technology also forms part of our school curriculum policy to provide a broad and balanced education to all children. Teachers provide learning opportunities that are matched to the needs of children with learning difficulties. Work in design and technology takes into account the targets set for individual children in their Individual Education Plans (IEPs).

### **Assessment and Recording**

Teachers assess children's work in Design and Technology by making assessments as they observe them working during lessons. Teachers collect examples of the children's work and forward them to the coordinator for inclusion in the Design and Technology portfolio. This evidence may be paper-based or electronic.

The Design and Technology subject leader keeps evidence of the selection of children's work at different ability levels, forwarded by class teachers, in a portfolio. This demonstrates what the expected level of achievement is in Design and Technology throughout each year in the school. Teachers meet regularly to review individual evidence of children's work against the national exemplification material produced by the QCA and the DfEE.

### **Resources**

Our school has a wide range of resources to support the teaching of Design and Technology across the school. Classrooms have a range of basic resources, with the more specialised equipment being kept in the Design and Technology school store. Audits will be carried out regularly to monitor the resources, any shortfalls should be reported to the coordinator who will arrange for replenishment. This room is not accessible to children. The library contains a selection of Design and Technology books.

### **Health and Safety**

The general teaching requirements for health and safety apply in this subject. Children are taught how to follow proper procedures for using tools and equipment along with food safety and hygiene.

### **Monitoring and Review**

The monitoring of the standards of children's work and of the quality of teaching in Design and Technology is the responsibility of the Design and Technology co-ordinator. The work of the co-ordinator also involves supporting colleagues in the teaching of Design and Technology, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school. The Design and Technology co-ordinator gives the Headteacher an annual report in which she evaluates the strengths and weaknesses in the subject and indicates areas for further improvement. The Design and Technology co-ordinator will review evidence of the children's work and monitor and evaluate the quality of Design and Technology teaching across school.