Design and Technology Policy

Date adopted: *September 2023*
Next review date: *September 2026*

"Inspiring individuals to achieve and excel"

Packmoor Ormiston Academy Design and Technology Policy

Introduction

"Design and Technology is about providing opportunities for students to develop their capability, combining their designing and making skills with knowledge and understanding in order to create quality products."

Richard Green Chief Executive Design and Technology Association

Design and Technology (D&T) is one of the statutory foundation subjects within the National Curriculum 2014. The D&T coordinator has drawn up the policy in consultation with the head teacher and the senior leadership team. The policy was presented to the governing body at their Full Governing Body meeting. The implementation of the policy is the responsibility of all teaching staff.

Design and Technology at Packmoor

D&T plays an important part in our school in the development of the pupils' understanding and enjoyment of the real world in which they live. It also contributes to their personal and social education, particularly in relation to economic and industrial understanding. D&T also enables pupils to appreciate the variety and nature of materials and the ways in which they may be worked. D&T also gives all pupils an awareness that they can affect and control their environment, while being involved in relevant, enjoyable and meaningful experiences. During their time at Packmoor, pupils have opportunities to build upon a repertoire of skills to enable them to realise their ideas.

Teaching D&T involves developing personal skills and knowledge of a wide range of materials and equipment.

During D&T lessons children will complete a 'Project on a Page' that applies to their key stage. This is a scheme of work that was introduced in 2014 to help implement the National Curriculum within schools in a more imaginative way that will help children develop their creative skills to solve product problems. Within this scheme of work each key stage will look at:

- KS1 – Mechanisms (sliders, levers, wheels and axles), structures, food, textiles.
- LKS2 – Mechanical Systems (levers, linkages and pneumatics), structures, electrical systems, textiles, food and electrical systems.
- UKS2 – Food, textiles, structures, electrical systems (switches, circuits, monitoring and control) and mechanical systems (pulleys or gears and cams).

It helps the child gain a practical application of the skills in an ideal design and make tasks that also link to a topic or context. The skills that are applied are progressive and the way the projects are delivered it allows for teacher and pupil creativity to develop and blossom.

Entitlement
The New National Curriculum (2014) states that there are four main skills that children should be taught to develop in Design and Technology: designing, making, evaluating and technical knowledge.

These involve designing and making products, investigating and evaluating simple products and focused practical tasks. At KS1 children develop their skills, knowledge and understanding of mechanisms, structures, health and safety and vocabulary. At KS2 children also focus on materials and components and control.

Children in the early years have continuous access to D&T provision and both KS1 through to KS2 are given the opportunity to do at least one project a term. These projects are focused activities, which mostly arise from their termly topics and are based on new skills they need to learn. These activities are sometimes based on an identified need. At KS2, children build on skills learned at KS1 and take part in projects and focussed tasks which may come from other core or foundation subjects. These activities are often based on an identified need.
The New National Curriculum (2014) states that Cooking and Nutrition should be delivered to all children in KS1 and KS2. In KS1, children are expected to learn where food comes from and what constitutes a healthy diet. In KS2, children would prepare and cook savoury dishes and learn more about how food is reared / grown and about the effects of seasonality.

Implementation
All children are given the opportunity from the Foundation Stage through to KS1 and KS2 to be involved in activities which will improve their designing, making and evaluating skills. These activities enhance pupils' knowledge and understanding of an increasing range of materials, mechanisms, structures, types of control and methods of fixing. Projects also draw upon scientific knowledge and mathematical skills children have learned. Learning skills include observation, communicating information, asking questions and solving problems, looking at artefacts, applying learning to unfamiliar situations using computing skills.

Nursery and Reception children have the chance to undertake simple making projects based on reclaimed materials, textiles, food and construction kits, using pre-chosen materials. They have experience of doing simple "picture" designs. In design they present their ideas by making freehand drawings. They select materials, tools and techniques for making and can simply evaluate their work.

At KS2 children are given the opportunity to work on more complicated design and make tasks. Children also think about criteria for design, thinking about issues like safety and reliability. They also have the experience of creating and using work plans in making their designs. Pupils use a greater range of materials than those in KS1. They also evaluate their work and products in a more detailed manner, suggesting improvements. Teaching involves direct teaching – demonstration of

skills, techniques and the correct use of tools. But opportunities for open-ended project work, where the teacher offers advice and guidance are also provided. Time spent on D&T can be flexible and teachers occasionally adjust their usual timetable. Progression in D&T is measured against the milestone statements.

Provision is made for differentiation by task or outcome for children with special educational needs.

Key Skills:
Practical skills and processes: assembling, joining, cutting, bending, forming, tying, shaping and modelling, problem solving, testing, finishing, colouring, organising materials, clearing away, using tools safely.
Perceptual skills: analysing, observing, planning, evaluating, investigating, problem solving decision making.
Personal qualities and attitudes: creativity, enterprise, imagination, initiative, flexibility, invention, motivation, perseverance, reliability.
Assessment and Record Keeping: teachers monitor pupil progress over the course of a project and make a teacher assessment at the end of each project completed. Teachers will also comment pupils' progress in the annual report to parents about each pupil's progress within the creative curriculum.

Cross – Curricular Links:
English
Design and Technology contributes to the teaching of Literacy 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 evaluation of products requires children to articulate their ideas and compare or contrast their views with those of other people. Through discussion children learn to justify their own views and clarify their design ideas.

Maths
In Design and Technology, we use numeracy to help to create nets of shapes to enable pupils to create packaging. Numerical equipment is also used in Design and Technology lessons when weighing and measuring.

Science
Science helps us in Design and Technology lessons when looking at electrical circuits. It also helps us to think more about using materials to create structures which can withstand a force.

Computing
We use computing to support Design and Technology teaching when this is 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 databases to provide a range of information sources and the internet to gain access to images of people and environments. Children use word processing packages to plan and evaluate work through the design process and to collect information to help present their designs through draw-and-paint programs.

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.

Health and Safety
Children work safely in uncluttered surroundings and are properly supervised during D&T tasks. They are taught the correct use of tools and equipment and are made aware of the dangers and how to avoid them by working safely**.**

Risk Assessment
Potentially dangerous tools and equipment are stored in locked cupboards.

Review
The policy will be reviewed by the head teacher and staff triennially and any suggested amendments will be presented to the Governors for approval.

Mr N. Higginson – September 2023