Design Technology Curriculum Overview

Intent

Our aim is to cultivate innovative and critical thinkers who can analyse problems and develop effective solutions through evaluation of existing products, testing ideas, designing products and evaluating the effectiveness of their finished products. We aim to provide a rich learning experience that fosters creativity, collaboration, and resilience through hands-on project-based learning.

Aspiration and ambition are built into the curriculum from the outset and we aim to broaden children's range of ambitions by introducing them to designers, engineers and inventors who have shaped the world we live in today. Children will understand that failure is the first step to success and use an iterative process to improve and refine upon their designs.

Our curriculum is designed to align with the aims of the National Curriculum while also reflecting the aspirations and interests of our diverse learners.

Key objectives of our Design Technology programme include:

- **Developing Creativity**: Encourage students to think outside the box and develop original ideas by engaging them in the design process from initial conception to final product.
- **Critical Thinking and Problem-Solving**: Equip students with the skills to identify problems, conduct research, and explore various solutions, helping them to apply scientific, mathematical, design and creative principles effectively.
- **Understanding Materials and Processes**: Ensure that learners gain a mastery of a wide range of materials, tools, and techniques, enabling them to select the right resources for their projects confidently.
- **Promoting Sustainability and Aspirations**: Instil an awareness of the importance of sustainability in design while connecting students with role models such as James Dyson and Zaha Hadid, who inspire aspirations in engineering and architecture. We encourage students to consider the environmental impact of their creations and how they can contribute positively to society through their innovations.
- **Cultural Relevance**: Celebrate and integrate design concepts that reflect the diverse cultural backgrounds of our students, allowing them to connect their learning to their own experiences

Implementation and Curriculum Overview

Downholland Haskayne CE Primary School has mixed age classes. There is an EYFS (including 3+ Nursery)/KS1 class- Acorn and a KS2 Class – Oak. The curriculum has been designed with a 2 year rolling program for Acorn class and a 4 year rolling program for Oak class.

EYFS activities will be designed to meet the Early Learning Goals and will fit alongside the program of study for KS1. For example, the objective: *Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Suggested tools: pencils for drawing and writing, paintbrushes, scissors, knives, forks and spoons. (Development Matters Sept: 2023)* could be worked towards in the unit on mechanisms and levers by allowing the children to experiment with fixing card together using split pins to make different types of levers.

Acorn Class – KS1

Cycles	Autumn	Spring	Summer
Cycle A	Mechanisms Levers and sliders *(Annotated) sketch*	Food Fruit kebabs *Talk/ Discussion*	Structures Free-standing Playground equipment *(Annotated) sketch*
Cycle B	Textiles Puppets *(Annotated) sketch*	Food Healthy pizza *Talk/ discussion*	Mechanisms Wheels and axles *(Annotated) sketch*

Oak Class – KS2

Cycles	Autumn	Spring	Summer
Cycle A	Mechanical Systems Levers and linkages Books *(Annotated) sketch*	Food Innovative sandwiches *Exploded diagram*	Structures Shell Structures Packaging *CAD*
Cycle B	Textiles Stuffed toy/ souvenirs Pattern piece	Food Bread *Discussion*	Electrical systems Night lights or torches *CAD/ cross-section*
Cycle C	Food Vegetable curry *Discussion*	Structures Frame structures Bridges/ Bug houses	Mechanical systems Cams/ gear and pulleys
Cycle D	Textiles Phone case Pattern piece	Food Menu for a diabetic person *Discussion/ annotated sketch*	Programming, monitoring and control Step counter Night-light *(Annotated) sketch*