# PORTFIELD SCHOOL & SATELLITE CENTRES

# POLICY DOCUMENT FOR DESIGN TECHNOLOGY

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## Review of Policy

This policy will be reviewed biennially in consultation with staff, parents and governors.

This policy was adopted by:

Headteacher  …………………………………………………  Date………………………………

Chair of Governors…………………………………………  Date………………………………

## Introduction

This document is a statement of the philosophy, aims and objectives, teaching and learning strategies of Design Technology in Portfield School. It has been developed through a process of consultation with teaching staff.

## Mission Statement

Working together      Learning together      Achieving together

At Portfield School we strive to

- Create a happy, safe, supportive and stimulating learning environment
- Value everyone
- Develop everyone's personal, social, emotional health and wellbeing
- Promote relevant academic and vocational skills
- Meet individual needs through an imaginative and flexible approach
- Enable all learners to achieve their full potential

## UNCRC United Nations Convention on the Rights of the Child

- Portfield School places the values and principles of the UNCRC at the heart all policies and practices
- Portfield School is a Rights Respecting School

## Philosophy

For our pupils, Design Technology is an introduction to practical problem solving and using materials available to them to solve problems in a man-made environment. It is a practical subject which develops the spirit of enquiry by encouraging curiosity and reason.

Today's students are living in a highly developed technological society. Each pupil is constantly using and controlling a wide range of technology whether it is the use of a switch, calculator or computer. This is all part of their experience of life and one which they will use in the classroom. Each pupil needs to enjoy the experiences associated with Design Technology by increasing and developing their knowledge and by starting to realise that in technology there is never just one correct solution.

This will include opportunities to experience Design Technology and apply to everyday life. Pupils will therefore be working with others, learning to identify a need, designing a solution, building an artefact, testing and evaluating.

Throughout the Design Technology Curriculum we are incorporating sustainable development and global citizenship where appropriate.

## Aims of the Design and Technology Curriculum

Our aims for teaching Design Technology are developed from this philosophy and are listed below.

- To provide interest and enjoyment in a stimulating environment.
- To provide activities which develop confidence and enhance self-esteem.
- To work with basic tools, equipment, materials and components to make simple products in a range of materials, including food and textiles.
- To develop a range of skills including those required for designing products.
- To explore common materials and components and investigate the sensory qualities and properties of those materials and products.
- Investigate familiar products and communicate likes and dislikes.
- To develop an awareness of real life situations and issues and the impact of Design Technology on the past, present and future.
- To ensure that pupils are allowed to become active learners in their own programmes.

## Roles and Responsibilities

All members of the teaching staff have a responsibility for the teaching of DT and they need to ensure that their knowledge is continually updated. The school has a DT coordinator. The role is to:

- take the lead in policy development and production of the schemes of work, ensuring continuity and progression across the school;
- support colleagues in teaching the subject content, development of planning, implementation of the scheme of work and in assessment and record keeping activities;
- monitor teaching and learning to continue to support improvement in pupil progress and report back to the headteacher, staff and governors;
- have responsibility for the purchase and organisation of central resources for DT and relevant ICT resources;
- keep up to date with current initiatives and curriculum development;
- disseminate this information to the staff and keep them informed of possible visits, exhibitions and courses;
- collaborate with colleagues in other school.

## Teaching and Learning Strategies and Planning

It is important that the class teacher identifies the most appropriate teaching strategy to suit the purpose of a particular learning situation.

There are a variety of ways in which the teaching may be effective and teachers are encouraged to use their enthusiasm and professional judgement to identify the most sensible, suitable and appropriate method of the work being conducted.

The scheme of work provides suggestions to help in the selection of suitable activities and the most effective approach. Pupils are encouraged to work as individuals and in groups when appropriate. Pupils are encouraged to use a variety of means of communicating and recording their work.

## Differentiation
In order to provide for pupils of different abilities within each class we endeavour to differentiate tasks in suitable ways. Differentiation is catered for in one of two ways:
1. Differentiation by task.
2. Differentiation by outcome.
3. Differentiation by assistance offered. More able KS3 students will be taught by DT subject specialist at Tasker Milward Comprehensive School if appropriate where they join mainstream lessons with support.

## Key Skills
Teachers should provide opportunities, where appropriate, for pupils to develop and apply the following common requirements through their study/participation in Design Technology.

Pupils will be given the opportunity to develop their skills across the subjects.

## Skills across the Curriculum
Pupils at Portfield are given opportunities to build on skills they have started to acquire and develop during the Foundation Phase. Pupils continue to acquire, develop, practise, apply and refine these skills through group and individual tasks in a variety of contexts across the curriculum. Progress can be seen in terms of the refinement of these skills and by their application to tasks that move from: concrete to abstract; simple to complex; personal to the 'big picture'; familiar to unfamiliar; and supported to independent and interdependent.

## Developing Thinking
Pupils develop their thinking across the curriculum through the processes of planning, developing and reflecting.
Pupils at Portfield design and make products through the iterative process of creating and developing ideas, designing products, planning, making and reflecting on their decisions and outcomes in terms of their finished product.

### Developing Communication

Pupils should be given the opportunities, where appropriate in their study of Design Technology to develop and apply their skills of speaking, listening, reading, writing and expression of ideas e.g. rebus signs used alongside words/labelling/evaluation of designs/1 to 1/group discussion of topic/designing and making e.g. Pocket Games – In design and technology, pupils can ask questions and seek out information to develop and support their design ideas. They communicate and record their ideas and intentions by explaining, writing, sketching, using detailed technical drawings and three-dimensional models. Pupils will be evaluating the games that they have made, they will work with a partner to evaluate their games, pupils will use their own communication aids in order to evaluate their product.

### Developing Number

Pupils should be given the opportunities, where appropriate in their study of Design Technology to develop and apply their knowledge and skills of number, shape, space, measures and handling data e.g. numbers/measuring/sets of objects/comparison of sizes/simple graphs e.g. during the bread topic pupils will use ICT equipment to formulate graphs and charts of a variety of different peoples favourite food products.

### Developing ICT Skills and Digital Competency

Pupils develop their ICT and digital competence skills across the curriculum by finding, developing, creating and presenting information and ideas and by using a wide range of equipment and software. They will also develop a growing awareness of how to use digital technology to create, produce and share information and ideas. They will develop skills to stay safe and identify the risks and benefits of using technology.

### Learning Across the Curriculum

At Portfield School, pupils are given opportunities to build on the experiences gained during the Foundation Phase, which in turn promote their knowledge and understanding of Wales, their personal and social development and well-being, and their awareness of the world of work.

### Curriculum Cymreig

Pupils should be given the opportunities, where appropriate in their study of Design Technology to develop and apply knowledge and understanding of the cultural, economic, environmental historical and linguistic characteristics of Wales e.g. the local chocolate factory, making boxes following the visit, designing packaging and evaluating their design.

Pupils at Portfield are given opportunities to use the rich characteristics and resources of Wales as a source of inspiration and a context to design and make products.

### Personal and Social Education
Pupils should be given the opportunities, where appropriate in their study of Design Technology to develop and apply the attitudes, skills, values that underpin society, supporting them in becoming active and informed citizens, knowledge and understanding relating to personal and Social Education e.g. environmental concerns; recycling/conservation/litter/sustainable development/care of plants and animals. Pupils are made aware of human achievements and the big ideas that have shaped the world. They are encouraged to be enterprising and innovative in their designing and making, while having regard for sustainability and environmental issues in the twenty-first century.
These are highlighted by the class teacher and monitored through the topics by the co-ordinator.

### Careers and the World of Work
Design and technology contributes to the pupils' awareness of careers and the world of work by providing opportunities for them to understand how consumer products and services are developed and brought to the marketplace. This raises their awareness of the range and diversity of careers associated with manufacturing in the wider world. Design and technology also allows learners to engage with the design and manufacturing technologies that are increasingly used in the workplace.

### Progression in design and technology

### Design and Technology in the Foundation Phase
In the Foundation Phase, pupils designing and making skills are developed through using information that generate ideas; this in turn leads to a stimulating and creative making opportunities across all Areas of Learning.
Pupil's progresses in design and technology capabilities are observed with an understanding of child development and the stages children move through.

### Design and Technology at Key Stage 2
At Key Stage 2, learners are given opportunities to build on their experiences during the Foundation Phase. They are taught to design and make simple products by combining their designing and making skills with knowledge and understanding in contexts that support their work in other subjects and helps develop their understanding of the made world. Pupils are made aware of human achievements and the big ideas that have shaped the world. They are encouraged to be creative and innovative in their designing and making while being made aware of issues relating to sustainability and environmental issues in the twenty-first century.

## Design and technology at Key Stage 3

At Key Stage 3, pupils are given opportunities to build on the skills, knowledge and understanding acquired at Key Stage 2. They are taught to design and make products by combining their designing and making skills with knowledge and understanding in contexts that allow them to make decisions based on the values that underpin society, helping them become active and informed citizens. They are made aware of human achievements and the big ideas that have shaped the world. Pupils are encouraged to be enterprising and innovative in their designing and making, while having regard for sustainability and environmental issues in the twenty-first century.

## Design and technology at Key Stage 4/5

At KS4/5 students are given opportunities to build on previous skills to design and make products by immersing past knowledge and understanding into the planning, creating and evaluating aspects. Student Thinking Skills are continually being developed due to some quite challenging constructions allowing for a high degree of accuracy and achievement.

During option days, students are offered a variety of activities that have a definitive link to areas of Design and Technology. These include textiles, woodwork, lego construction and food technology which are all differentiated to meet the needs of the individual students as well as promoting life skills and independent skills.

KS4/5 where appropriate are able to access Pembrokeshire College where they are given the opportunity to access the college curriculum for taster sessions such as brickwork, catering/food tech skills/boat building to participate with positive results with learner participation and interaction.

Students continue to work towards ASDAN, OCN and OCR levels of accreditations which build up to Awards.

## Design Technology in the National Curriculum.

Design Technology will be delivered through topic work and the revised Portfield School Equals schemes of work as well as linking the LNF strands elements and aspects in a cross curricular manner.

Design Technology will be studied as a foundation curriculum subject in the national curriculum. However it is important that we explore cross-curricular links in order that the curriculum may be delivered to pupils as a coherent whole.

## Health and Safety

Good Design Technology is all about being safe.

Risk assessments should be carried out before undertaking any making/activity. This ensures that members of staff are fully aware of any risk, however small. The key

elements of such assessments are to assess the risk associated with the activity as well as the materials.

It is possible to assess…
1. The likelihood of an accident occurring.
2. The possible effects of an accident.

By combining these two factors it is possible to assess the realistic degree of risk. The assessment should then include details of the procedures to be followed in performing the activity, how these details will be communicated to the children and how it will be monitored. It should also recognise the procedures to be followed in case of an accident.

## Literacy Framework (LNF)

There are three strands Oracy, Reading, Writing. Pupils should be given opportunities, where appropriate, in their study of Design & Technology to develop and apply the three strands.

## Numeracy Framework (LNF)

There are four strands of numeracy – developing numerical reasoning, using number skills, using measuring skills and using data skills. Pupils should be given opportunities, where appropriate, in their study of Design & Technology to develop and apply skills in the four strands.

## Staffing
Design Technology is taught by the class teacher with small group/individual guidance provided by the support staff.

The Design Technology Co-ordinator is available to provide support and advise through a timetabled programme.

## Resources
See Appendix 1

## Assessment, Recording and Reporting
Assessment, recording and reporting in DT is carried out in accordance with the school's Assessment, Recording and Reporting policy. Individual progress and attainment is assessed and targets set.

Assessment in DT is achieved through:-
- Observation – whilst pupils are working
- Discussion – much is learnt about the child's understanding by the way they respond to questions asked about their work
- The written evidence they may produce
- RFL, P levels and NC outcomes and levels (SOLAR) are used to show progress.
- Pupil self assessment and peer assessment is promoted throughout all areas.

## Parental Involvement
Parental involvement in this area is important in that children often gain wide experience in this curriculum area in the home. Where parents have a particular ability, they should be encouraged to contribute to curriculum development and delivery.
Parental involvement can be achieved through...
- Assessment and reporting procedures
- Development of IEPs
- Multi-disciplinary input
- Home-school diaries
- Open evenings
- Accompanying pupils on visits

## Equal Opportunities
All pupils will have access to a broad, balanced and relevant curriculum regardless of their race, culture, background, gender, other protected characteristics or disability. All areas for equal opportunity will be taken into consideration when planning lessons, activities and access to the Design and Technology Curriculum. Provision should be made to enable the use of switches, IT, Communication aids etc. and the deployment and support given by staff.

## Implementing, Monitoring and Evaluating the Policy
All staff will take responsibility to ensure the policy is implemented within their classroom/lessons.

The effectiveness of the policy will be reviewed biennially by the co-ordinator.

- Is current practice still reflected?
- Are the aims being achieved?
- Is there evidence to show breadth and balance in the curriculum?
- Is monitoring and planning effective?
- Is there evidence around school that demonstrates pupil achievement and enjoyment?
- Are resources effectively allocated?
- Is there evidence that teaching and learning is effective?

Cutting mats, Stanley knife, junior hack saws, joiners
Balsa Wood
Knex – Class 6 and 7
Large Duplo Lego – Class 1
Cookery Equipment
Sewing –class 9
Range of paper for cutting/folding
Tubing
Junk modelling equipment – Class 7 and 9
Kidi Knex – Class 2 & 3
Knex K8 Construction – Builds 80 models – Class 6
Knex – Building Set – Models – Class 4
Knex – Gears (moving toys KS2), (Fairground KS2) – Class 4
Knex – Levers & Pulleys – Class 4
Knex – Wheels, Axels & Planes – Class 4
Tech Card   – Models that work
                 - Propelled Models (KS2 Moving Monsters)
Mask Making Kit / Puppets
Wooden Construction Set – Class 3
Mobiles – Vehicles – Class 3
Duplo Large – Class 1
Duplo Police Station – Class 3
Fire Station – Class 3
Hospital – Class 3
Boards & People – Class 3
Magnetic Construction – Class 6
Lego – Remote – Class 6
Snap & Play – Class 4
Lego Class – 6
Slow cooker purchased for Upper/ Satellite classes at Portfield.
Sandwich makers for both Lower/Upper schools.
Restock of cookery items for both sites carried out in the autumn term 2016: bowls of various sizes, utensils, crockery for Tasker 1 Satellite class, tea towels, jugs.