**Southwick Community Primary School**

**Design Technology Policy 2021**

This policy reflects the school’s aims and objectives in relation to the teaching and learning of Design Technology. It sets out a framework within which teaching and non‐teaching staff can operate. It gives guidance on planning, teaching and assessment. The policy should be read in conjunction with the Early Years Foundation Stage framework, the National Curriculum and Chris Quigley’s Essentials Curriculum.

**Intent**

Design and Technology is an inspiring, rigorous and practical subject. Design Technology encourages children to learn to think and intervene creatively to solve problems both as individuals and as members of a team. We encourage children to use their creativity and imagination, to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others’ needs, wants and values. We aim to, wherever possible, link work to other disciplines such as mathematics, science, engineering, computing and art. The children are also given opportunities to reflect upon and evaluate past and present design technology, its uses and its effectiveness and are encouraged to become innovators and risk-takers.

Key skills and key knowledge for Design Technology have been mapped across the school to ensure progression between year groups. The context for the children’s work in Design Technology is also well considered and children learn about real life structures and the purpose of specific examples, as well as developing their skills throughout the programme of study.

Design and Technology will engage the children in a broad range of designing and making activities which involve a variety of methods of communication; speaking, designing, drawing, assembling, making, writing and using computer technology. Projects are taught in the context of a wider topic, which allows for more effective learning in which teachers can focus on teaching and developing DT skills, allowing children to develop their ideas and techniques. Units of work have been selected and planned to ensure a balance of materials, skills, knowledge and understanding throughout each Key Stage. All children should have a breadth and balance of experience. The curriculum is designed to enable progression in Design and Technology processes, including specific aspects of designing and evaluating. It also ensures that children develop their knowledge and skills systematically; choosing and using an increasing range of tools and techniques to suit a range of different purposes and developing their knowledge and understanding of mechanisms and structures to enable the incorporation of mechanical and electronic systems into their products.

Opportunities will be sought by the school to provide the children with access to places of design and technological significance and learning outside the classroom within units of work. The school will also seek to provide access to people with specialist design and technology skills from the local and wider community to enrich the Design and Technology curriculum.

**EYFS**

Expressive Arts and Design is one of the 4 key areas of the EYFS framework. It involves supporting children to explore and play with a wide range of media and materials, as well as providing opportunities and encouragement for sharing their thoughts, ideas, and feelings through a variety of activities in art, music, movement, dance, role-play, and design and technology.

The staff team will plan for children to experience creative opportunities and develop key skills and techniques within the EYFS curriculum. There will be a focus on developing fine motor skills and learning how to plan, design and produce the finished project. The knowledge and skills acquired and developed in the EYFS will provide the foundation or those identified in subsequent years. Nursery and Reception classes will be, where appropriate, included in whole school projects, workshops, events and competitions associated with Design Technology.

**KS1 Curriculum**

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts (for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment).

When designing and making, pupils should be taught to:

**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.

**Key Stage 2**

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts (for example, the home, school, leisure, culture, enterprise, industry and the wider environment).

When designing and making, pupils should be taught to:

**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

*The above aims are consistent with our school’s aims and take account of the Early Years Foundation Stage Framework, the 2014 National Curriculum Programmes of Study and Chris Quigley Essentials Curriculum*

**Implementation**

All children will be taught the skills and principles of Design Technology as outlined in the programmes of study in Chris Quigley Essentials Curriculum. Attainment targets to improve upon are indicated in the co-coordinators file under assessments. In Reception the children follow guidelines for creative development as set out in the Early Learning Goals. At key stage one and two design technology is often rotated or sometimes combined with art and design depending on the relevant links with the class’ current learning journey. Additional to this, creativity should be encouraged in all subjects. Teachers ensure that investigating and making includes exploring and developing ideas and evaluating and developing work.

Knowledge and understanding informs this process. Every opportunity is taken for the four key aspects of Design technology to be integrated into learning;

* **Design**
* **Make**
* **Evaluate**
* **Technical Knowledge**

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programmes of study.

**Design Technology lessons will follow a similar structure across school:**

1. Researching and looking at focus designers/focus inspiration

2. Technical practice of design and construction skills linked to work taken from the focus designer/inspiration focus

3. Practice ideas in sketchbooks or challenge skills books

4. Final piece building

5. Self /peer evaluation of the final piece

The key skills and knowledge for each Design and Technology Topic have been mapped by each year group to ensure that these are progressive from one year to the next. Planning considers cross curricular opportunities and these are stated on the school’s knowledge and skills progression mapping and embedded in practice. The context of the school, including the use of local resources and places to ensure relevance, is also considered at planning level.

Teachers will either select materials needed to complete a DT project from the DT Resource area, purchase any materials needed for the design, construction and evaluation of a project or decide to use recycled materials or junk modelling to help complete a project. Children are taught to use tools and equipment in a sensible, safe and efficient manner.

It is the responsibility of the class teacher to plan work for their pupils in the year group that they teach. Planning is based on EYFS Framework, National Curriculum and Chris Quigley Essentials Curriculum.

**Impact**

**Assessment**

Design Technology feedback is given verbally by teachers, teaching assistants and sometimes by peers. Some pieces of Design Technology evidence will have written feedback in the form of next steps to challenge and progress learning where appropriate.

The Essentials Curriculum is used to identify the key knowledge and skills that underpin progress in each unit of work. These build progressively throughout the school, and across the programme of study, and form the basis of assessment in Design and Technology. The knowledge, understanding and skills identifies form the basis of learning objectives for each D&T session and is used to help focus teacher’s discussions with children and inform observations. Teachers use the information they gather during projects about the performance of individual children and groups to provide carefully tailored feedback, questioning, explanation and support, according to their needs. At the end of each unit of work, the identified key knowledge in DT is also checked, reviewed and consolidated, and this process is recorded in the children’s topic books. Teachers check and refer to previous related knowledge at the beginning of each new DT topic. Displays within the classroom and hall areas will reflect a range of work across key stages, to celebrate and exhibit children’s varied responses to the brief.

Keeping effective assessment involves careful observation, analysis and review by practitioners of each child’s knowledge, skills and understanding, in order to track their progress and make informed decisions about planning for the next steps of learning. Assessment is on a continuous basis, taking into account the children’s work throughout the year. Attainment and progress is tracked termly using Chris Quigley Milestones:

Basic: Following instructions, modelling, explaining, acquiring, refining, high level support

Advancing: Decision making, reminding, guiding, applying, practising, medium level of support

Deep: Multi-steps – more than one outcome, justification, coaching, probing, deepening, extending, low level of support.

Milestone 1: Year 1 and 2

Milestone 2: Year 3 and 4

Milestone 3: Year 5 and 6

This assessment system shows both the breadth and depth of learning and is used to track children’s progress and attainment. Work is monitored by the class teacher, English Lead, SLT and Phase leaders to assist in planning for future work to meet the needs of the children.

A scrutiny of the work of all groups is carried out across the school with feedback given to individual teachers and assistants.

**Reporting**

All parents receive an annual written report on which there is a summary of their child’s effort and progress in reading and writing over the year. Parents also meet with their child’s class teacher twice a year. This time is used to discuss current attainment and future targets that can also be supported at home.

**In School Initiatives**

At Southwick Primary we feel it is incredibly important for children to understand that what they are learning can be applied to real life and can shape their future and career. One of the ways in which we do this is by running a STEM week once a year. The children work on a project over a week, using a variety of skills and knowledge that they have gained in Science, Computing, DT and Maths in order to create an end product. STEM ambassadors, from each year group, then host a learning table at our STEM showcase which is attend by the whole school.

Children also have the opportunity to meet inspirational members of the real STEM community, learning about their career paths, the roles they play and the skills that are required to work in the industry.

**Special Educational Needs and Disability**

All children receive high quality inclusive teaching. Where possible, we aim to fully include SEND pupils in lessons so that they benefit from quality first teaching as well as high levels of individual support and participating with other children in demonstrating and explaining their methods.

There are high expectations for all pupils. Resources are provided to encourage children to learn independently and support their learning. Specialist resources are also used, where appropriate.

When planning, teachers will address the child’s needs through simplified, extended or modified tasks. Support staff are deployed effectively to support, extend and challenge children in their learning.

Some pupils experience learning difficulties, which affect their progres. Class teachers are responsible for trying to pinpoint any difficulties, so that through early intervention these pupils can be helped.

Where pupils are shown to be experiencing difficulties and under‐achieving over a period of time, class teachers monitor problems closely. Parents/Carers are consulted and, if possible, support given where appropriate.

Pupils with special educational needs should have full access to the Design and Technology curriculum. For children with Education Health and Care Plans, staff need to consider provision and classroom support for all activities.

**More Able and Talented (Something to consider and develop)**

Teachers’ planning is differentiated and provides challenge for more able pupils. Having determined the pupils’ needs, by monitoring and assessing their work, we plan for differentiation, varying our expectations and outcomes with the abilities of the children, thus ensuring steady progress is made.

Activities are structured to ensure success for all children, allowing more able children to undertake work of a more challenging nature where appropriate.

**Equal Opportunities**

At Southwick Community Primary School, we are committed to equality of opportunity. Whole school policy on equal opportunities will be adhered to in Design and Technology activities. Teachers ensure that children have access to the range of Design and Technology activities and use opportunities within Design and Technology to challenge stereotypes.

Children are encouraged and supported to develop their Design and Technology capability using a range of materials. Children with special needs or disabilities will be differentiated for and supported appropriately, to ensure development of skills and equal access to the Design and Technology curriculum.

This policy will be reviewed annually by the Governing body

Policy Agreed: July 2021

Policy Review Date: July 2022