Fulwood and Cadley Primary School

Design Technology (DT) Policy

Date of Policy: December 2021

Review Date: December 2021

Subject Leader: Mrs S. Barrett

School Vision and Ethos

'Wish It. Dream it. Do it. Be Unique'

At Fulwood and Cadley, our children are confident, courageous, fearless learners who, through our creative and inspiring curriculum, are enriched with opportunities to develop their skills: socially, emotionally and academically. Enriched learning experiences develop real life skills, technological expertise and emotional intelligence, which are underpinned with the promotion of a positive-growth mind-set throughout the curriculum and beyond. Pupils are resilient, determined, independent and show perseverance to overcome any challenge now and in the future.

Design Technology Statement of Intent

At Fulwood and Cadley Primary School we provide all children with learning opportunities to engage in design technology. We aim to provide a learning environment where children feel secure and are encouraged to creatively risk-take and problem solve. In DT lessons all children will develop the creative, technical, and practical expertise needed to perform everyday tasks confidently and to ultimately participate fully in the wider world. Through the DT curriculum, children should be inspired by engineers, designers, chefs and architects to enable them to create a range of structures, mechanisms, textiles, electrical systems and food products with a real-life purpose.

Legal Framework

This policy has due regard to statutory guidance including, but not limited to, the following:

* DfE 'Statutory framework for the early years' foundation stage' 2021

* DfE 'Design and technology programmes of study: key stages 1 and 2' 2013

* Equality Act 2010

* The Special Educational Needs and Disabilities Regulations 2014

Roles and Responsibilities

The **Design Technology Leader** is responsible for the strategic leadership of their subjects within the school curriculum. This may include specific roles or responsibilities such as:

- Preparing policy documents, curriculum plans and schemes of work for the subjects.
- Reviewing changes to the national curriculum and advising teachers on their implementation.
- Provide training for staff where necessary.
- Ensuring the continuity and progression from year group to year group.

- Encouraging staff to provide effective learning opportunities for pupils.
- Helping to develop colleagues' expertise in design technology.
- Organising the deployment of resources and carrying out an **annual** audit of all related resources.
- Liaising with teachers across all phases.
- Communicating developments in design technology to all teaching staff and the senior leadership team (SLT), as appropriate.
- Leading staff meetings and providing staff members with the appropriate training.
- Organising, providing and monitoring CPD opportunities in the subjects.
- common standards are met for recording and assessing pupil performance.
- Advising on the contribution design technology to other curriculum areas, including cross-curricular and extra-curricular activities.
- Collating assessment data and setting new priorities for the development of design technology in subsequent years.

The **classroom teacher** is responsible for:

- Acting in accordance with this policy.
- Ensuring progression of pupils' design technology skills, with due regard to the national curriculum.
- Planning lessons effectively, ensuring a range of teaching methods are used to cover the content of the national curriculum.
- Liaising with the **design technology leader** about key topics, resources and support for individual pupils.
- Monitoring the progress of pupils in their class
- Reporting any concerns regarding the teaching of the subjects to the **subject leader** or a member of the **SLT**.
- Undertaking any training that is necessary in order to effectively teach the subjects.

Early Years Foundation Stage

Please see Art and DT guidance document

Implementation (teaching and learning, cross curricular links, planning and home learning and key skills and knowledge)

First and foremost, the teaching of design technology follows the national curriculum which provides a full breakdown of the statutory content to be taught within each unit.

KS1 pupil objectives

By the end of KS1, pupils will be taught to develop the abilities outlined in this section:

Design

- To design purposeful, functional and appealing products for themselves and other users based on design criteria.
- To generate, develop, model and communicate their ideas through talking, drawing, templates and mock-ups and, where appropriate, information and communication technology.

Make

- To select from and use a range of tools and equipment to perform practical tasks, e.g. cutting, shaping, joining and finishing.
- To select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.

Evaluate

- To explore and evaluate a range of existing products.
- To evaluate their ideas and products against design criteria.

Technical knowledge

- To build structures, exploring how they can be made stronger, stiffer and more stable.
- To explore and use mechanisms, e.g. levers, sliders, wheels and axles, in their products.
- Through a variety of creative and practical activities, pupils will be taught the knowledge, understanding and skills needed to progress to KS2.
- Pupils will work in a range of relevant contexts, e.g. the home, school, leisure, enterprise, industry and the wider environment.

KS2 pupil objectives

By the end of KS2, pupils will be taught to develop the abilities outlined in this section.

Design

- To use, research and develop design criteria to inform the design of innovative, functional and appealing products that are fit for purpose, aimed at particular individuals or groups.
- To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.

Make

- To select from and use a wider range of tools and equipment to perform practical tasks accurately, e.g. cutting, shaping, joining and finishing.
- To 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

- To investigate and analyse a range of existing products.
- To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.

- To understand how key events and individuals in D&T have helped shape the world.

Technical knowledge

- To apply their understanding of how to strengthen, stiffen and reinforce more complex structures.
- To understand and use mechanical systems in their products, e.g. gears, pulleys, cams, levers, and linkages.
- To understand and use electrical systems in their products, e.g. series circuits incorporating switches, bulbs, buzzers and motors.
- To apply their understanding of computing to program, monitor and control their product.

Cooking and nutrition

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the greatest 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.

By the end of KS1, pupils will be taught to:

- Use the basic principles of a healthy and varied diet to prepare dishes.
- Understand where food comes from.

By the end of KS2, pupils will be taught to:

- Understand and apply the principles of a healthy and varied diet.
- Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.
- Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.

Cross-curricular links

Wherever possible, the DT curriculum will provide opportunities to establish links with other curriculum areas.

English:

D&T offers the opportunity to reinforce what pupils have been learning during English lessons. Discussion, drama and role-play are important methods that the

school employs to help pupils develop an understanding of people's different views and opinions of D&T and society.

Evaluating products requires pupils to articulate and formulate their ideas to compare their views with other pupils' views; through discussion, pupils will learn to justify their own views and clarify their design ideas.

Maths:

D&T will assist pupils in learning about shape and size and will make use of what they have already learned in maths lessons.

Pupils will carry out investigations, and by doing this they will learn to read and interpret scales, collect and present data, as well as draw their own conclusions.

PSHE:

D&T lessons will be used to teach pupils how to discuss their own work and the work of others.

Pupils will be taught about health and hygiene, including diets, and how to prevent disease from spreading when working with food.

Spiritual, moral, social and cultural development (SMSC):

Teaching D&T offers opportunities to support the social development of pupils through the way they are expected to work with each other in lessons.

D&T helps pupils develop a respect for other pupils' abilities. Working in groups encourages collaboration and gives pupils the opportunity to learn from each other and share ideas and feelings.

Technology:

Technology enhances the teaching of D&T and provides pupils with additional equipment, extending the possibilities for developing, sharing and recording their work.

Utilising technology also benefits pupils by helping them collect information and present their designs and ideas through a range of design and presentation software.

Health, safety and hygiene

In order to maximise their learning experience, pupils are allowed access to a wide range of materials in design technology lessons; however, health and safety concerns are inherent with these subjects, including storing materials and tools, and the use of equipment.

- Personal protective equipment (PPE), such as eye protection is made available to all pupils and teachers if necessary.
- The risks of each task will be assessed by the **classroom teacher** and if necessary, discussed with the **subject leader** before lessons, and relevant PPE will be compulsory based on their decisions.
- Equipment will be tested before the start of every lesson by the **classroom teacher**.
- Pupils will be supervised at all times during D&T lessons.
- All tools, such as glue guns, are checked by the **classroom teacher** and tools that are damaged or unsafe are **reported to the subject leader**. It is the duty of staff to recognise and assess the hazards and risks associated when working with food and other materials.
- All pupils will be taught how to use all equipment properly by the **classroom teacher** before use; similarly, pupils will also be fully briefed on the importance of how to correctly use equipment and tools.
- Pupils are only allowed to use a lower temperature glue gun under supervision – an adult will use the glue gun at all other times.
- Glue guns will be considered alongside all viable alternatives, such as adhesive tapes, blue tack and other fasteners, to ensure the most suitable materials are used for each project.
- Perishable food will be stored sensibly and refrigerated if necessary. Care will be taken by teachers and TAs to ensure food is not used after the given sell-by date.
- A fire safety blanket will be kept next to the cooker at all times.
- If any cooking or food preparation is taking place in the classroom, all surfaces will be cleaned before and after use.
- Parent helpers will be supervised when cooking with groups of pupils.

- Teachers and TAs will oversee that all cupboards, table tops and cookers are clean and in working order.
- Teachers will be aware of any children, in their class, with allergies and will act accordingly when planning and preparing food lessons.

Planning

At Fulwood and Cadley, an overview for the teaching of the design technology curriculum can be found on the whole school curriculum overview map and this includes the national curriculum objectives for end of year assessments. The key progression of DT skills across the school is also available alongside a vocabulary map for DT. Medium term planning also details a summary of the unit of work and the intended outcome. Individual planning is at the teacher's discretion as we trust our teachers to plan in a way that best suits their personal style however, within planning, key non-negotiables must be identified which consist of:

- Teachers will use the key learning content in the DfE's statutory guidance 'National curriculum in England: DT programmes of study'.
- Lesson plans will demonstrate a balance of interactive elements used in teaching, ensuring that all pupils engage with their learning.
- Long-term planning will be used to outline the units to be taught within each year group.
- Medium-term planning will be used to outline the national curriculum skills covered and skills progression that will be taught in each unit of work, as well as highlighting the opportunities for assessment. Medium term plans will identify main learning activities and overall outcome
- Medium-term plans will be collated by the curriculum leader and shared with the DT Leader to ensure there is progression between years.
- Short-term planning will be used flexibly to reflect the objective of the lesson, the success criteria and the aim of the next lesson.
- Short-term planning is the responsibility of the teacher. This is achieved by building on their medium-term planning, taking into account pupils' needs and identifying the method in which topics could be taught.
- All lessons will have clear learning objectives, which are shared and reviewed with pupils and will ensure there is an opportunity to develop limitless learning and provide challenge.

Impact (assessment and reporting and monitoring and review)

Assessment and reporting

Pupils will be assessed and their progression recorded in line with the school's Assessment Policy. This includes formative assessment of keys skills and a summative assessment at the end of a unit of work.

Throughout the year, teachers will plan on-going creative assessment opportunities in order to gauge whether pupils have achieved the key learning objectives.

Assessment will be undertaken in various forms, including the following:

- Talking to pupils and asking questions
- Discussing pupils' work with them
- Marking work against the learning objectives
- Specific assignments for individual pupils
- Observing practical tasks and activities
- Pupils' self-evaluation of their work

Formative assessmet of the above skills **should take place frequently** after each lesson or unit of work taught. This is to be **evidenced on O-Track** and used to inform future teaching and learning.

Summative Assessment will take place at the **end of each term** and will be a cumulative jugement based on all skills taught to date. This is to be **evidenced on O-Track**.

Learning will be tailored for pupils with special educational needs and disabilities and their progression will be assessed by the school SENCO.

Equality

Learning will be tailored for pupils with special educational needs and disabilities and their progression will be assessed by the school SENCO.

- Teaching will provide equality of access for all pupils
- Teaching will promote and celebrate the contribution of different cultures
- Teaching and learning will provide educational visits and extended learning opportunities that involve all pupil groups and enrich pupils learning experiences, investing in individual cultural capital
- Lessons and resources will reflect the reality of a culturally diverse society and explore cultures from around the world with respect.
- Teachers will take account of the performance of all pupils when planning for future learning and setting challenging targets, using on-going

formative assessment to establish starting points and next steps

- We will meet all pupils' learning needs including the more able by carefully assessed and administered programmes of work
- A ceiling is never placed on any child's learning regardless of ability through the opportunity to engage in differentiated tasks, independently selected by the child, therefore developing child-initiated learning and empowerment to make choices for themselves.
- In Design and Technology, teachers will strive to provide an environment in which all pupils have equal access to all facilities and resources
- All pupils are encouraged to be actively involved in their own learning and develop a positive self-perception in relation to themselves as a learner
- A range of teaching methods are to be used throughout the school to ensure that effective learning takes place at all stages for all pupils

Monitoring and review

This policy will be reviewed on an annual basis by the DT leader. The DT leader will monitor teaching and learning in the subject as part of peer review days, ensuring that the content of the national curriculum is covered across all phases of pupils' education and that there is a clear progression of skill development across key stages and year groups. Any changes made to this policy will be communicated to all teaching staff.

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Policy Author: S. Barrett