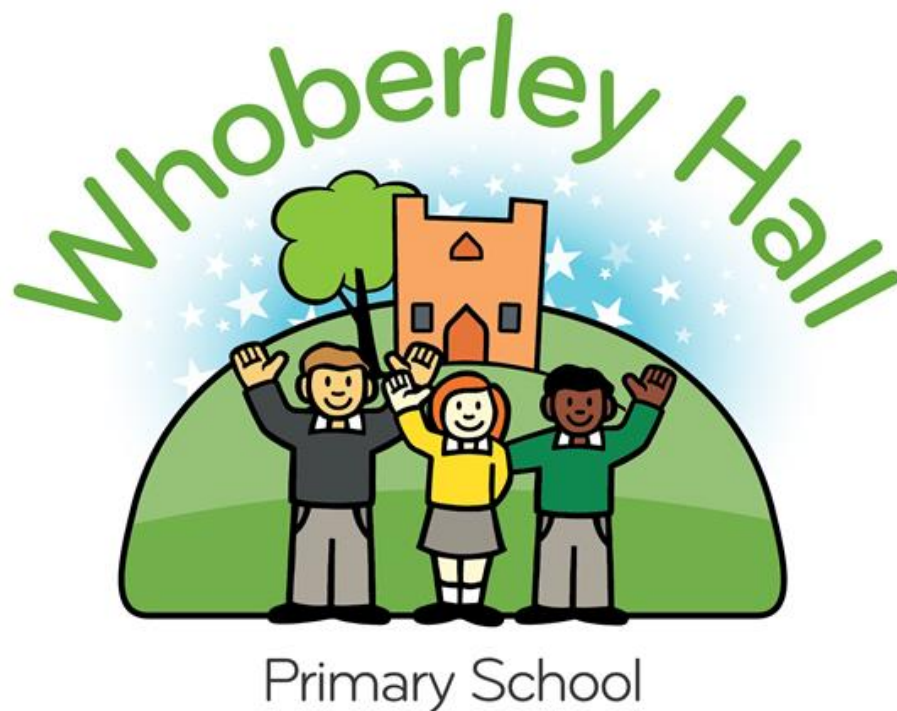




Believing Achieving Learning for life

Design and Technology Policy

Date Written- September 2022

Written By- Michelle Cragg

Next Review- September 2023

Introduction

This policy outlines the learning, teaching, organisation and management of Design and Technology at Whoberley Hall Primary School. The implementation of this policy is the responsibility of all teaching staff. The responsibility for monitoring and review rests with the design and technology co-ordinator.

What is Design and Technology?

Design and technology is an inspiring, rigorous and practical subject which gives children the skills and knowledge to engage positively with the designed and made world and to successfully utilise the benefits of technology. They learn how products and systems are designed and manufactured, how to be innovative and to make creative use of a variety of resources including digital technologies, to improve the world around them.

- **Active Designers:** *Pupils should have opportunities to experiment and develop their skills following the design process: Design, Make and Evaluate, across the six key areas of D &T in the curriculum.*
- **Identify as a Designer:** *Pupils should be able to identify when they are studying Design and Technology as opposed to other subjects. Design and Technology provides an opportunity for children to be innovative and creative whilst developing a range of key skills, knowledge and understanding.*
- **Designer's voice:** *Pupils should be able to develop historical, cultural and contextual knowledge, learning about a wide range of designers, engineers, chefs and architects. Pupils should be able to talk about design and technology using the correct terminology and subject-specific vocabulary to enable them to develop their evaluations of their own and others' work.*

The Design Technology curriculum at Whoberley Hall is structured into four key areas of learning:

- Textiles
- Cooking and nutrition
- Mechanisms
- Structures

In Key Stage 2 children will also learn about:

- Electrical systems (linked to Science)
- Digital world (linked to computing)

Intent

At Whoberley Hall, our intent is to create children who are innovative and creative thinkers who can design products that fulfil a need for a particular person or group of people using a three stage design process: Design, Make, Evaluate. Design and Technology is a vital part of our curriculum as it helps to prepare children to deal with tomorrow's rapidly changing world. DT should provide children with a real-life context for learning whilst developing knowledge of past and present technology. We are committed to delivering a high-quality curriculum which engages, inspires and challenges pupils, equipping them with the knowledge and skills to experiment, invent and create whilst also allowing them to feel confident in taking risks. This means we provide opportunities for children to explore current products, draft designs, test ideas and then reflect on their learning by evaluating their own and others' work. We also provide our children with the subject specific language they need to describe, question and discuss designs and products.

In DT lessons, children will 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. Children will return to key concepts and skills and develop them further in each phase so that they make good progression over time.

Expectations

By the end of EYFS children will:

Use a range of small tools, including scissors, paint brushes and cutlery. They will safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. They will share their creations, explaining the process they have used. Children will begin to show accuracy and care when drawing.

By the end of Key Stage 1 children will:

Design purposeful, functional, appealing products for themselves and other users based on design criteria. They will generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. When making, they will select from and use a range of tools, materials and equipment to perform practical tasks. They will explore and evaluate a range of existing products and evaluate their own ideas and products against design criteria. When making products, children will build structures, explore and use mechanisms and use the basic principles of a healthy and varied diet.

By the end of Key Stage 2 children will:

Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at specific individuals or groups. They will generate, develop, model and communicate their ideas in a range of ways. When making, they will select from and use a wider range of tools, materials and equipment to perform practical tasks. Children will investigate and analyse a range of existing products and evaluate their own ideas and products against their own design criteria, considering the views of others to improve their work. They will understand how key events and individuals in design and technology have helped shape the world. When making products children will apply their understanding of structures, textiles, mechanical or electrical systems and the principles of a healthy and varied diet.

Our aim is to build an awareness of the impact of design and technology on our lives and equip children with the skills to contribute to future design advancements. We encourage children to go on to apply these skills across all subjects, as well as in their futures. Ultimately, we seek to promote high aspirations and to create a life-long love of the subject.

Implementation

Based upon the National Curriculum, Chris Quigley's Milestones and the individual needs of our children, we have created a Design and Technology curriculum which sets out the objectives taught in each year group and focuses on developing skills progressively. Lessons will be structured using the design cycle: Design, Make, Evaluate. Teachers' skilful questioning allows all children to make progress and reflect on learning. Children will develop products with a real life context focussed on four key areas: Structures, Mechanisms, Textiles and Cooking and Nutrition. In Key Stage 2 these areas are extended to include: Electrical Systems and the Digital World. These key areas are revisited throughout each phase with increasing complexity, allowing children to revisit, embed and extend prior learning. Units on nutrition are taught ensuring that children have a growing understanding of where food comes from, its seasonality and the need for a healthy and varied diet.

Where a natural link can be made, DT is woven into to other subjects, like science, to deepen children's understanding and support their understanding of the wider impact of design and technology on changes in society or culture (e.g. through the use of searchlights during world war two).

Staff Use the National Curriculum as a starting point, and then focus in on Chris Quigley's Milestones to make the skills and knowledge specific to their year group. After an initial 'jotting down' of ideas, staff plan lessons using the topics and milestones. Staff identify key vocabulary, using the tiered vocabulary approach and this is taught explicitly. Staff consider cognitive overload, how to ensure that learning 'sticks' into the long-term memory, cultural capital and the local context, as well as ensuring that lessons are engaging and meaningful. Retrieval opportunities are planned for by teachers, to ensure children have opportunity to secure new knowledge and embed learning over time. Visits or workshops are planned where relevant to encourage high aspirations, ensure that any new learning is reinforced through experience and allow children to meet real life designers.

Impact

Our design technology curriculum offers high quality and well planned lessons which encourage progression. At the end of each phase, the children will have experience of: How to follow the design, make, evaluate process to meet a goal; Solving real life practical problems using innovation and creativity, both as an individual and as part of a group; Choosing from and using a growing range of tools and materials; Using and understanding richer technical vocabulary associated with Design and Technology; Preparing a range of healthy, varied and nutritious dishes.

The impact of the curriculum will be seen through:

- Pupil's will speak enthusiastically about their design technology learning and articulate what they are learning and why it is important.
- Children's work will be celebrated, and drawings, photos and annotations will be evidenced in books.
- Children will be excited and passionate about design technology, keen to participate and speak enthusiastically about their learning.
- Children will understand and apply the principles of healthy eating, diets and recipes including knowledge of key processes, food groups and cooking equipment.
- Children will be able to use appropriate vocabulary accurately, independently, to demonstrate their understanding.
- Children will have an appreciation for key individuals, inventions and events that impact on our world today. They will recognise where our decisions can impact community, social and environmental issues.

In order to ensure our aims have been met, we scrutinise topics through:

- Assessing children's understanding of topic linked vocabulary before and after the unit is taught.
- Interviewing the pupils about their learning (pupil voice).
- Moderation where pupil's books are scrutinised and there is the opportunity for a dialogue between teachers to understand their class's work.
- Sharing good practice in staff meetings.
- Marking of written work in books against the schools marking policy.

Designing and making usable products gives pupils a real sense of achievement. They benefit from experiencing their own progress and taking responsibility for their own learning. They enjoy the practical application of their ideas. Plus, their personal engagement with the task improves attention span, patience, persistence and commitment. All of which means special needs pupils can achieve results that compare or even exceed their peers. Design and Technology offers these pupils the chance to experience achievement at a level that may seldom occur elsewhere in their school life.

Pupil's who are struggling will be identified by the teachers and work will be differentiated to allow everyone to access the same curriculum content. We will make adaptations to the learning resources where necessary for example, children may need materials that are easier to manipulate, tools that are adapted to their individual needs or support with measuring/handling the materials. They may also need access to word banks, writing templates or small step guidance to support their learning.

Pupils with SEN often find designing activities problematic and they may need to be offered a variety of methods of recording ideas quickly or in different ways. They can also be supported with their practical activities in other ways, for example, by using key words sheets, flow charts and visual instruction sheets which explain a process in a step-by-step manner.

Personal, social and health education (PSHE) and citizenship

Design and Technology has a unique link to PSHE objectives. The subject encourages imagination and innovation allowing children to consider their own and others' needs and wants in real life contexts. This can give children the chance to empathise with others' and think about designing products that can improve their own and others' lives. Children are taught to evaluate and improve on their own and others' ideas, learning how to take risks and become

resourceful and enterprising citizens who have the skills to impact the ever-changing technology of the future and improve our world. We encourage the children to develop a sense of responsibility and respect for others when evaluating designs. Lots of discussions through Design and Technology lessons, sharing opinions and taking into consideration other people's views contributes to the teaching of PSHE. Design and Technology can also help to boost children's self-esteem and allow them to produce something they are proud of.

Spiritual, moral, social and cultural development

The teaching of Design and Technology offers opportunities to support the social development of our children through the way we expect them to work with each other in lessons. Our groupings allow children to work together and give them the chance to discuss their ideas and feelings about their own work and the work of others. Through their collaborative and co-operative work across a range of activities and experiences in DT lessons, the children develop respect for the abilities of other children and a better understanding of themselves. They also develop a respect for people and the world in which they live. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. Technology has and still is developing at a rapid rate and this is something the children can learn to appreciate and contribute to in Design and Technology lessons. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

SEND

At Whoberley Hall we teach Design and Technology to all children, whatever their ability. Design and Technology forms part of the school curriculum policy to provide a broad and balanced education to all children. Through our teaching we provide learning opportunities that enable all pupils to make progress. We do this by setting suitable learning challenges and responding to each child's different needs. Assessment against the National Curriculum allows us to consider each child's attainment and progress against expected levels.

When progress falls significantly outside the expected range, the child may have special educational needs. Our assessment process looks at a range of factors – classroom organisation, teaching materials, teaching style, and differentiation – so that we can take some additional or different action to enable the child to learn more effectively. This ensures that our teaching is matched to the child's needs.

Roles & Responsibilities

The Head teacher will:

- Actively support and encourage staff, praising good practice and supporting staff development, in-service training (particularly for the DT Leader) and resources.

The DT leader will:

- Provide sequences of skills and knowledge to be taught.
- Support colleagues in planning and teaching of the subject and in developing their skills in teaching and assessing DT.
- Carry out subject monitoring and evaluation of practice.
- Use feedback from monitoring to develop an action plan for DT with realistic and developmental targets.
- Compile a portfolio of children's work to evidence progression and examples of good practice for staff to refer to.
- Keep up to date on new developments in the use of DT in the curriculum and inform staff in staff meetings and training days.
- Promote DT throughout the school with the idea of themed days/weeks and family learning challenges for home.
- Complete Curriculum Effectiveness Review Cycle every half-term around DT.

The Class Teacher will:

- Be responsible for planning and implementing the sequence of lessons for each DT unit as set out in this policy.
- Display relevant vocabulary in the classroom.
- Follow the sequence - design, make, evaluate - when planning sequences of lessons.

Resources

Each class is provided with a range of basic DT resources at the start of the school year and can request resources specific to their upcoming topics. A large bank of additional resources is kept in the DT cupboard and further resources can be found in the art cupboard. These are audited and updated annually. Ingredients for food topics will need to be purchased when the topic takes place and some topics will require the class teacher to ask children to collect recycled materials from home to make products with.

The school is committed to providing a wide range of quality resources matched to the units in our curriculum, with the aim of motivating both staff and pupils to take part in creative activities.

The class teacher is responsible for ensuring the safety of the children during the lesson by instructing them in the safe and appropriate use of any equipment. The class teacher is responsible for the general care of the equipment during the lesson by instructing the children in the correct use of the equipment/media and by replacing unused resources in the appropriate cupboard safely after use. The class teacher should report damage to equipment or gaps in resources to the DT Leader as soon as possible.

Assessment

Staff assess pupil's understanding of key concepts and vocabulary at the start of a unit. The same concepts and vocabulary are presented again at the end of the unit. These concepts and vocabulary are monitored by the DT coordinator and provide evidence of progress. This, in addition to other methods, for example, pupil voice, informal observations during lessons, provide further evidence of progress. Books, photos and displays provide evidence of coverage and are a way of enabling reinforcement of skills and knowledge.

M. Cragg (DT co-ordinator)

Review Date: September 2023