St Peter's C of E Primary School

Design and Technology Policy

Date:	November 2024	Review Date:	November 2027

INTENT

Design and technology prepares children to take part in the development of tomorrow's rapidly changing world. Creative thinking encourages children to make positive changes to their quality of life. The subject encourages children to become autonomous and creative problem-solvers, both as individuals and as part of a team. It enables them to identify needs and opportunities and to respond by developing ideas, and eventually making products and systems. Through the study of design and technology, they combine practical skills with an understanding of aesthetic, social and environmental issues, as well as of functions and industrial practices. This allows them to reflect on and evaluate present and past design and technology, its uses and its impacts. Design and technology helps all children to become discriminating and informed consumers and potential innovators.

Our objectives in the teaching of design and technology are:

- to develop imaginative thinking in children and to enable them to talk about what they like and dislike when designing and making things;
- to encourage children to collaborate and be aware of others strengths.
- to encourage children to persevere with their designs and when creating a final product.
- to enable children to talk about how things work, and to draw and model their ideas;
- to encourage children to select appropriate tools and techniques for making a product, whilst following safe procedures;
- to explore attitudes towards the 'made' world and how we live and work within it;
- to foster enjoyment, satisfaction and purpose in designing and making things.
- to apply the principles of nutrition and healthy eating whilst leaning how to cook.

IMPLEMENTATION

The school uses a variety of teaching and learning styles in design and technology lessons taking on board the age and ability of the children. The principal aim is to develop children's knowledge, skills and understanding in design and technology. Teachers ensure that the children apply their knowledge and understanding when developing ideas, planning and making products, and then evaluating them. We do this through a mixture of whole-class teaching and individual or group activities. Within lessons, we give children the opportunity both to work on their own and to collaborate with others, listening to other children's ideas and treating these with respect. Children critically evaluate existing products, their own work and that of others. They have the opportunity to use a wide range of materials and resources, including ICT.

In all classes, there are children of differing ability. We recognise this fact and provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We ensure that expectations are matched to the capacity of the children. We achieve this through a range of strategies:

- setting common tasks that are open-ended and can have a variety of results;
- grouping children by ability, and setting different tasks for each group;
- providing a range of challenges through the provision of different resources;

- using additional adults to support children's work as well as offer praise, encouragement and to make the learning purposeful.

Design and technology curriculum planning

The school is a member of the Design and Technology Association and teachers have their own Log ins. The association provides a wealth of resources including Projects on a Page which can be accessed as editable word documents in order to better fit the schools planning.

Design and technology is a foundation subject in the National Curriculum. Our school uses the National Curriculum as the basis for its curriculum planning in design and technology.

Design and Technology lessons involve a mix of: investigative and evaluative activities; focused practical tasks and design, make and evaluate assignments.

We include the six principles of: User, Purpose, Functionality, Design Decisions, Innovation and Authenticity in planning units of work. These are identified by colour coding on our curriculum long term plans. We carry out the curriculum planning in design and technology in three phases: long-term, medium-term and short-term. The long-term plan maps out the units covered in each term during the year. The school plans on a two year cycle. The subject leader, deputy and head teacher check these for correct coverage and can suggest changes for the next review of the cycles.

Our medium-term plans give details of the unit of work for that term. They identify learning objectives and outcomes for the unit.

Class teachers include the design and technology lesson either on their weekly plan or as part of their topic plans across the term. Here they note the specific learning objectives and expected outcomes for each lesson, and detail how the lessons are to be taught. These weekly plans are monitored termly by the subject leader and discussed where necessary.

We plan the activities in design and technology so that they build on the prior learning of the children. We give children of all abilities the opportunity to develop their skills, knowledge and understanding. The series of lessons show a progression of skills and knowledge expected as the children move through the year groups. We have used the progression of skills document provided by the D&T association to ensure that our curriculum plans show this progression.

The Early Years Foundation Stage

We encourage the development of skills; knowledge and understanding that help Early Years children make sense of their world as an integral part of the school's work. Through following the Early Years Foundation Stage Curriculum, we relate the development of the children's understanding of the world to the objectives set out in the specific and prime areas of learning and development. These underpin the curriculum planning for children from birth to five. This learning forms the foundations for later work in design and technology. These early experiences include asking questions about how things work, investigating and using a variety of construction kits, materials, tools and products, developing making skills and handling appropriate tools and construction material safely and with increasing control.

We provide a range of experiences that encourage exploration, observation, problem-solving, critical thinking and discussion. These activities, indoors and outdoors, attract the children's interest and curiosity.

Contribution of design and technology to teaching in other curriculum areas.

(Curriculum links with other subjects are identified on the long term plan document)

English

Design and technology contributes to the teaching of English in our school by providing valuable opportunities to reinforce what the children have been doing during their English lessons. Discussion is one way the children understand other people's views and opinions on products and about design and technology. The evaluation of products children to articulate their ideas and to compare and contrast their views with those of other people. Through discussion, children learn to justify their own views and clarify their design ideas.

Mathematics

In design and technology, there are many opportunities for children to apply their mathematical skills through choosing and using appropriate ways of calculating measurements and distances. They learn how to check the results of calculations for reasonableness, and learn how to use an appropriate degree of accuracy for different contexts. Children learn to measure and use equipment correctly, including those related to cookery. They apply their knowledge of fractions and percentages to describe quantities and calculate proportions. The children will carry out investigations, and in doing so, they will learn to read and interpret scales, collect and present data, and draw their own conclusions. They will learn about size and shape, and make practical use of their mathematical knowledge, in order to be creative and practical in their designs and modelling.

Science

Integrating science with design and technology in primary education fosters a holistic understanding where students explore materials and their properties, apply concepts of forces and motion, and investigate energy sources to inform their designs. By engaging in the design process, considering the purpose of product, and evaluating environmental impacts, students learn to create sustainable solutions. They use mathematical reasoning in measurement and geometry, develop programming skills for control systems, and apply scientific testing methods to assess their prototypes.

Personal, social and health education (PSHE) and citizenship

Design and technology contributes to the teaching of personal, social and health education and citizenship. We encourage the children to develop a sense of responsibility in following safe procedures when making things. We teach the children the basic principles of healthy eating and encourage them to understand the importance of a varied diet. Through their understanding of personal hygiene they also learn how to prevent disease from spreading whilst working with food. Their work encourages them to be responsible and to set targets to meet deadlines.

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 in which 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 cooperative work across a range of activities and experiences in design and technology, the children develop respect for the abilities of other children, and a better understanding of themselves. They also develop a respect for the environment, for their own health and safety, and for that of others. They develop their cultural awareness and understanding, and they learn to appreciate the value of differences and similarities. A variety of experiences teaches them to appreciate that all people are equally important, and that the needs of individuals are not the same as the needs of groups.

Design and technology and Computing

Computing enhances the teaching of design and technology, wherever appropriate, in all key stages. Children across the key stages use computer programmes to support their learning whether this be through collecting information, researching and recording design ideas or modelling their designs. In Key Stage 2 children are given the opportunity to use ICT for computer aided design as part of DMEAs and for control and modelling.

Design and technology and inclusion

At our school, we teach design and technology to all children, whatever their ability and individual needs. Design and technology implements the school curriculum policy of providing a broad and balanced education to all children. Through our design and technology teaching, we provide learning opportunities that enable all pupils to make good progress. We aim to meet the needs of those pupils with special educational needs, those with disabilities, those with special gifts and talents, and those learning English as an additional language. For further details, see separate policies: Inclusion, Single Equalities Plan & Policy etc.

7.2 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. Assessment against the National Curriculum allows us to consider each child's attainment and progress against expected bands. This helps to ensure that our teaching is matched to the child's needs.

When additional intervention is unsuccessful this may lead to the creation of an Education, Care and Heath Plan (EHCP) for children with special educational needs. The EHCP may include, as appropriate, specific targets relating to design and technology.

Resources

The Non-Consumable Design and Technology resources are located in a cupboard on the KS2 landing. This cupboard is locked and teachers have the code. This main resource cupboard stores the specialised equipment and is only accessible by teaching staff. The malleable materials and creative resources are stored within classes as and when required. There is a store of equipment for cooking in the staff room; the equipment stored in the cupboard must only be used for the preparation of food. Some consumable resources will need to be purchased as required and should be stored appropriately i.e. perishable items in the fridge.

Health and safety

In this subject, the general teaching requirement for health and safety applies.

Children are taught skills correctly and all staff insist on good practice. Pupils are not allowed to undertake practical work unsupervised. Safe practice and/or food hygiene should be revisited each time the children are embarking on D&T activities. The subject leader has just changed and arrangements are in place for the new subject leader to complete Food Safety level 2. A designated person will also be completing the D&T Association safety course.

When undertaking food activities Health and Safety Procedures must be adhered to.

It is the responsibility of the class teacher to check dietary needs and food allergies for the children in their class in order to identify any foods that need to be avoided.

IMPACT

Assessment for learning

We assess the children's work in design technology while observing them working during lessons. We record the progress that children make by assessing the children's work against the learning objectives for their lessons. At the end of each term, we make a judgement against the National Curriculum and enter this data into Target Tracker to measure progress and attainment. The teacher then uses this information to plan future work. This method of recording also enables the teacher to make an annual assessment of progress for each child, as part of the child's annual report to parents. We pass this information on to the next teacher at the end of each year.

Children are encouraged to assess and evaluate both their own work and that of other pupils. They are encouraged to generate their own design criteria in a design and make assignment; they use the iterative process in designing making and evaluate to refine their designs. At the end of an assignment, children could use web diagrams and other evaluation methods to evaluate their product. They may also seek the views of peers and users as part of the evaluative process. Gaps in learning can thus be identified in order to inform future planning.

The design and technology subject leader monitors the teaching and learning of design technology across the school on a termly basis; this is then discussed and any actions are planned and authorised.

Monitoring and review

The coordination and planning of the design technology curriculum are the responsibility of the subject leader, who also:

- supports colleagues in their teaching, by keeping informed about current developments in design and technology, and by providing a strategic lead and direction for this subject in the school;
- uses regular management time to review evidence of the children's work, interview pupils and to observe lessons of design and technology across the school.
- feedback findings to teachers and support staff so that they can build on this in improving future lessons.
- A named governor will liaise with the subject coordinator to discuss the Action Plan for the subject.

This policy will be reviewed at least every three years.

Signed: Emma Smith

Date: 02.11.2024