Tunbury Primary School

Design & Technology Policy

Why teach Design and Technology?

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 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.

Design and Technology Aims

The aims 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.
- To enable children to talk about how things work, and to draw and model their ideas.
- To develop their capability to create high quality products through combining their designing and making skills with knowledge and understanding.
  To encourage children to select appropriate tools and techniques for making a product, whilst following safe procedures.
- Use and explore a range of materials, resources and equipment.
- To develop an understanding of technological processes, products, and their manufacture, and their contribution to our society.
- Use the internet to explore ideas and already made products.
- To foster enjoyment, satisfaction and purpose in designing and making.

What the National curriculum requires in design and technology.

Key stage 1

Design

- Design purposeful, functional, and appealing products for themselves and other users based on a 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 stringer, stiffer and more stable.
- Explore and use mechanisms (for example, levers, sliders, wheels and axles), in their products.

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

Key stage 2

Design
- Use research and development criteria to inform the design of innovative, functional, appealing products that are fit for a purpose, aimed at particular individuals or groups.
- Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagram, 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.

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.

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

Planning of Design and Technology

Design and technology is planned for in year group teams and is cross curricular where appropriate. Termly planning should follow the long term overview for the year group and should ensure that the *Focus Key Assessment Criteria: Being a designer,* are all covered within this planning. Short term planning should be maintained in planning folders, with annotations to identify progress on individual lesson plans.

Assessment and recording:

Formative assessment is the basis for assessment in design and technology. Work, where appropriate, will be recorded in Art & D&T folders or Humanities (Topic) books but evidence will also be photographic and on classroom displays.

When marking, it is important to assess the piece of work according to the Learning Intention and to indicate to the child whether they have used the success criteria to achieve this. A follow on/next steps question or comment should be given to children where appropriate, although this could be verbal if the lessons is practical.

Design and Technology resources

All design and technology equipment and extra resources are kept in the D&T store on shelves, with the textile resources being kept in the cupboard. Please make sure all equipment borrowed is returned to the D&T store after use.

A complete list of resources is in the subject leaders file and also in the D&T store.

Health and Safety

The general teaching requirement for health and safety applies in this subject. We teach children how to follow proper procedures for food safety and hygiene.

It is the teacher's responsibility to ensure a safe working environment and the safety of the teaching equipment should be reviewed regularly. Electrical equipment and knives should only be used under close supervision of the teacher or responsible adult together with the following tools:

- Glue Guns,
- Drills
- Craft Knives,
- Junior Hacksaws,
- Hammers
- Bradawls,
- Needles
- Files/Rasps

When working with tools, equipment, materials in practical activities pupils should be taught:

- About hazards and risks and about risk control
- To recognise hazards, assess subsequent risks and take steps to control risks
- To use information to assess the immediate and cumulative risk
- To manage their environment to ensure the health and safety of themselves and others

Evaluating and monitoring

The monitoring of the standards of children's work and of the quality of teaching in design and technology is the responsibility of the design and technology subject leader. The work of the subject leader also involves supporting colleagues in the teaching of design and technology, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school. The design and technology subject leader gives the head-teacher an annual report in which s/he evaluates the strengths and weaknesses in the subject and indicates areas for further improvement.

The school will also evaluate and monitor the teaching and learning of pupils in the following ways:

- The design and technology subject leader keeps evidence of the children's work in a portfolio. This demonstrates what the expected level of achievement is in design and technology in each year of the school.
- The subject leader will observe and assess finished work displayed in the classroom or around school and provide teachers with help and feedback. The subject leader will also monitor the way in which the subject is being taught by observing lessons from each year group.
- The subject leader will analyse teachers termly and weekly planning to ensure the end of year expectations are being planned for, are being taught and that the assessments made are informing the next weeks planning. They will also observe the teaching of design and technology in different classes.
- The class teacher will assess individual pupil's attainment against the end of year objectives.