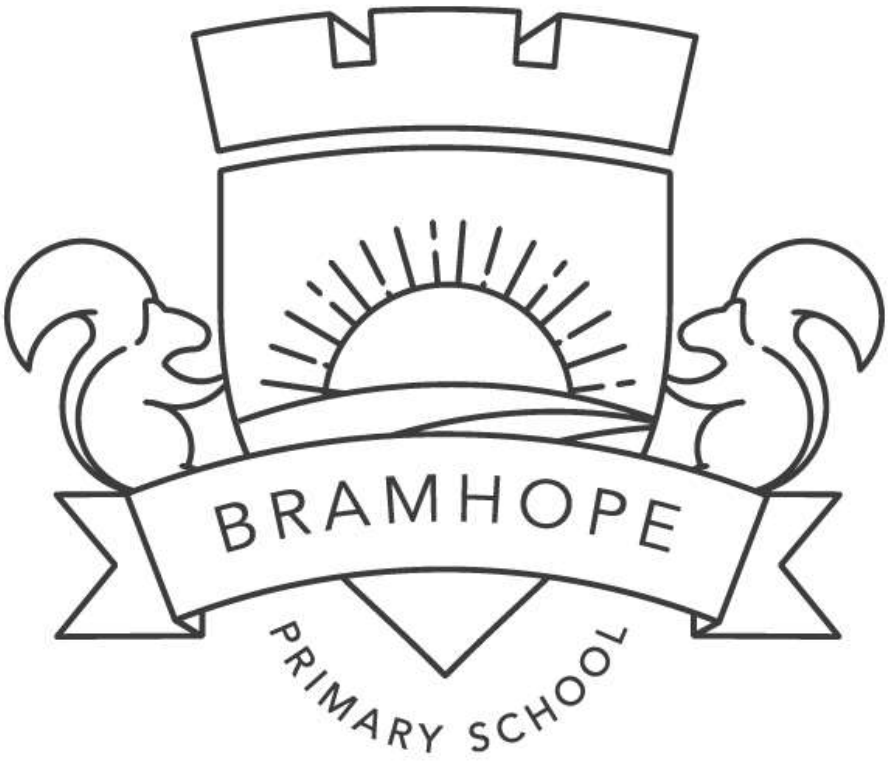

Design and Technology Policy

Rationale

Design Technology encourages creativity, originality and individuality. At Bramhope lessons engage, inspire and challenge pupils. Children are also given opportunities to discuss, share and respect opinions, reflect upon and evaluate their design products.

At Bramhope, we aim to provide visual, tactile and sensory experiences, and a special way of understanding and responding to challenges in D&T. When possible, we inspire children through studying artists and sculptors such as Andy Goldsworthy and Barbara Hepworth and creating patterns and sculptures out of natural materials found in our environment and other mediums such as clay, plasticine and modroc. We study textiles through looking at the life and works of artists such as El Anatsui. At Bramhope we encourage children to become involved in shaping their environments through design activities. Children are taught to make informed judgements, and make aesthetic and practical decisions. They explore ideas and meanings through the work of designers. Through learning about the roles and functions of design and technology, they can explore the impact it has on contemporary life and on different periods and cultures. We are sensitive to children's religious beliefs and physical needs and modify tasks accordingly.

Organisation of Content

Design and Technology is taught by our subject leader (Mrs Heald) who teaches across key stage one and key stage two. All children complete at least one project per term. We believe that Design and Technology provides many natural opportunities for the children to apply and practise a number of skills used in other areas of the curriculum. For example:

- Speaking and listening skills
- Communication skills
- Mathematical skills
- Creative problem solving
- Skills from art and design

Long term Plans may provide an opportunity to focus on a project, for example, designing a home for the "Hedgehog" and building bridges in KS1, however if this is not relevant D&T will be taught as a standalone subject.

Reception:

Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Within D.T. pupils engage in designing, making and exploring whilst developing their technical knowledge.

Key Stage 1 & 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 and school, gardens and playgrounds, the local community).

Key Stage 1

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.

Explore

- Explore/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

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.

Assessment of content

- Regular and ongoing class and one-to-one discussion is a key part of our assessment model and time is given every lesson for pupils to reflect upon successes, challenges and next steps. Weekly meta-cognitive questioning is also used to help children with this reflective process. For example:

- Before a task - Is this similar to a task you've encountered before? What do already know that can help you with this task?
- During a task – Are you on the right track? How could you approach this differently?
- After a task – What worked well? What would you do differently next time?

This two-way discussion is used to inform and plan future lessons. The art teacher assesses children's knowledge, understanding and skills in art by making observations of the children working, and through discussion, and this is used to complete assessment grids twice a year. These grids focus on the following four areas: Generating ideas, Making, Knowledge and Evaluation. Children are considered to be either, 'working towards', 'at expected level' or 'exceeding'. Sketchbooks provide a clear record of progression as the child moves through the school. Throughout their time at Bramhope, children discuss how they feel about their own work, and the methods and approaches used by others. We provide opportunities to meet and talk with artists and other talented adults from our community. All children have an opportunity to exhibit their work at one of our whole school Art and DT Exhibitions.

Accountability

D&T is taught by our subject leader (Mrs Heald) who teaches across both key stages, enabling consistency and progression in activities through each year group. On occasions, topics may allow children to work together to produce a whole school or key stage piece of work.

The teacher observes and supports through modelling techniques and encouraging critical thinking. Children are encouraged to analyse and improve work. Children are also given opportunities to share work produced at home.

Teaching strategies employed
We believe that DT provides many natural opportunities for the children to apply and practise a number of skills used in other areas of the curriculum. For example:

- **Speaking and listening skills:** through discussion and self/peer evaluation.
- **Communication skills:** discussing designs and forming opinions of works.
- **Mathematical skills:** Measuring (e.g. during our cushion making project) and considering weight (e.g. when constructing a bridge for Katie Morag's car), visualising and representing 2D forms including two dimensional representations of 3D forms, determining the quantity of materials required.
- **Creative problem solving:** through sharing ideas on how to tackle a piece of work.
- **P.S.H.E:** discussion, collaboration and celebration of work.
- **Science:** movements of the human body in sculpture, consideration of physics (when constructing a bridge) and fair testing.
- **I.C.T:** research and digital drawing/planning.

Provision for all children
Teachers ensure that all children, whatever their ability or background, have access to the range of D&T. activities and use opportunities within D&T. to challenge stereotypes. Children are encouraged and supported to develop their D&T. capability using a range of materials and learning how to handle resources safely.

Inclusion
We have carefully considered and analysed the impact of this policy on equality and the possible implications for pupils with protected characteristics, as part of our commitment to meet the Public Sector Equality Duty (PSED) requirement to have due regard to the need to eliminate discrimination, advance equality of opportunity and foster good relations. We are sensitive to children's religious beliefs and physical needs and modify tasks accordingly.

Health and Safety

The general teaching for health and safety applies in this subject.

- Children learn the proper procedure for handling and using equipment as well as a wide range of materials.

- Where children participate in activities outside the classroom, we carry out a risk assessment beforehand, to ensure that the activity is safe and appropriate for all pupils.

- Food technology: school maintains records of all children with allergies and parental permission is requested prior to handling food. The school has a kitchen risk assessment.

Teachers can refer to Projects on a Page document folder which highlights safe practice when using tools / materials and equipment in KS1 and KS2 (can be found in the staff area - DT folder).