



**Bramley Vale Primary
School**

**Design and Technology
Policy**

**Full Governors 13th May
2019**

F81 – 18/19

Design and Technology Policy

Vision statement:

'To create an excellent and challenging learning environment for the future through the promotion of creativity, high aspirations and perseverance'

'To create a supportive, caring atmosphere of mutual respect, extending to the wider community'

Aims:

Safe	to provide a safe, secure environment, with equality for all.
Healthy	to promote healthy hearts and healthy minds.
Achieve	to provide an enjoyable education where children achieve and meet their full potential.
Responsibility the wider	to instil responsibility for themselves, others and world.
Enterprising	to develop learners who understand their future well-being and aspire to be the best they can be.
Diversity	To develop learners who accept, embrace and celebrate diversity in our ever-changing world.

Rationale:

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.

Aims:

- 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 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 develop an understanding of technological processes, products, and their manufacture, and their contribution to our society;
- to foster enjoyment, satisfaction and purpose in designing and making;
- To evaluate the success of their design and to consider ways of improving it.

Teaching and learning:

The school uses a variety of teaching and learning styles in design and technology lessons. 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/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 achieve this through a range of strategies:

- setting common tasks that are open-ended and can have a variety of results;
- setting tasks of increasing difficulty, challenging the more able;
- 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 the work of individual children or small groups.

Design and Technology curriculum planning:

Design and technology is a foundation subject in the National Curriculum. Our school uses the NC document and the 'moving forward from QCA' document alongside Clive Davies Key Skills curriculum. The ideas on the 'moving forward from QCA' are flexible and teachers are able to adapt them, provided they still focus on the key skills covered in each one. The coordinator has put some of the ideas in this document into a Long Term Plan for the school to ensure thorough coverage of all key skills (appendix 1). This typically works out at three projects per year in Reception, Key Stage 1 and Key Stage 2. Teachers are strongly encouraged to link the units they teach to the creative

project planning where applicable. We plan the activities so that they build upon the prior learning of the children. We give children of all abilities the opportunity to develop their skills, knowledge and understanding and we build planned progression into the scheme of work, so that the children are increasingly challenged as they move through the school.

Our medium-term plans, identify learning objectives for each unit, and ensure an appropriate balance and distribution of work across each term. The recommendation is that we spend half an hour each week on Design and Technology. It is up to the individual class teacher how they organise their Design and Technology teaching time, either as a weekly or fortnightly activity throughout the term or as a teaching 'block'.

At the end of each term, the subject leader evaluates the units covered through looking at planning, examples of work and pupil interviews. This seeks to establish what went well and which aspects of the project needed extra support or input.

The long-term plan gives due coverage to all areas of D&T:

- Mechanisms
- Structures
- Food
- Control
- Textiles

Where some aspects are slightly more difficult to cover in school, such as control, we plan to use visits/visitors to support our work.

The Foundation Stage:

We encourage the development of skills, knowledge and understanding that nursery and reception children use to make sense of their world as an integral part of the school's work. In the Early Years Foundation Stage, we relate the development of the children's understanding the world to the objectives set out in the Early Learning Goals. These underpin the curriculum planning for children aged three 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 D&T to teaching in other curriculum areas:

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. The evaluation of products requires children to articulate their ideas orally and in writing; to compare and contrast their views with those of other people and to justify their own views and clarify their design ideas.

Information and communication technology (ICT):

We use ICT to support design and technology teaching when appropriate. Children use software and access to websites to enhance their skills in designing and making, and to develop their understanding of design in the 'real world' through simulation. The digital camera/Ipads allow children to 'market' and 'launch' their products.

Science:

Some science projects directly relate to projects in design and technology such as electrical circuits. These can be used when designing light up products. This cross-curricular approach is planned for through our topic-based curriculum.

Personal, social and health education (PSHE):

Design and technology contributes to the teaching of personal, social and health education. We encourage the children to develop a sense of responsibility in following safe procedures when making things. They also learn about health and healthy diets. Their work encourages them to be responsible and to set targets to meet deadlines, and they learn through their understanding of personal hygiene, how to prevent disease from spreading when working with food.

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 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.

Teaching design and technology to children with special educational needs:

We teach design and technology to all children, whatever their ability. Through our design and technology 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 is reported in the end of year reports.

Assessment and recording:

Teachers assess children's work in design and technology by making assessments as they observe them working during lessons. They record the progress that children make by assessing against the key learning objectives. At the end of each term, teachers make judgements against the National Curriculum expectations. These assessments will then feed in to the end of year report to parents.

Resources:

Our school has a range of resources and tools to support the teaching of design and technology across the school. Equipment and materials are centrally stored in the resources room. Wish lists and catalogues are circulated at least annually so that staff can request what they will need to teach their projects. In addition, items such as food can be bought by teachers and refunded via the office.

Health and safety:

The general teaching requirement for health and safety applies in this subject. Teachers teach the children how to use tools and equipment safely at the beginning of each lesson. We also teach children how to follow proper procedures for food safety and hygiene.

Individual teachers should assess risk before using any potential hazardous or dangerous materials or equipment. If staff are unsure in any aspect of health and safety then they should ask the health and safety officer for guidance (the head teacher).

Monitoring and review:

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 by writing the Design and Technology Action Plan and updating policy. The design and technology subject leader provides the SLT with information

through reviewing planning and topic coverage termly and reviewing the progress towards the targets in the school improvement plan twice a year. Samples of work are photographed or collected to build a portfolio of work in design and technology.

Policy written by: Andy Stoppard April 2019

Policy approved by staff: April 2019

Policy approved by governors:

Appendix 1

BRAMLEY VALE PRIMARY SCHOOL DESIGN AND TECHNOLOGY COVERAGE AND PROGRESSION DOCUMENT				
YEAR	KEY LEARNING (COVERAGE – You must plan to cover all of the key learning over 2 yr. rolling programme)	EXAMPLES OF LEARNING FROM CLIVE DAVIES/NC	IDEAS TO TEACH KEY LEARNING (related to project)	SUGGESTED MATERIALS
Foundation Stage is similar to National Curriculum though they are not expected to spend hours on a design and make project. Design and make projects can be completed in a morning/afternoon. Many D&T skills are learned in the FS and through focused practical tasks.				
F	*Using simple levers and sliders *Using simple moving joints	Build a model from construction kit components and attach features to the model e.g. roofs and windows using sheet or reclaimed materials (1c)	Enclosures for zoo/farm/playground park/garden/playground furniture furniture for book characters e.g. Chair for Goldilocks, bridge for billy goats display stands house for a mouse a container for carrying?	construction kits
F	*Combining fruits/vegetables according to their sensory characteristics *Learning about a range of fruit/vegetables	Describes the taste and textures of some fruit and vegetables (1c)	A fruit/veg tasting and naming salads fruit jelly yoghurt drinks smoothies kebabs	food
F	*Using simple methods for making free-standing structures stronger and more stable	Assemble a model with accuracy and talk about how it is appropriate for the user (1b)	house/castle/tower/bridge	sheet materials e.g. paper, card, wood, plastics
1	*Using simple levers and sliders *Using simple moving joints	Use tools safely to make an object that incorporates a simple lever or slider (1b)	whole class book greetings card display/poster calendar weather chart puppets a container for?	sheet materials textiles
1	*Using simple methods for making free-standing structures stronger and more stable	Basic understanding of structures to make models strong and stable (1a)	Enclosures for zoo/farm/playground park/garden/playground furniture furniture for book characters e.g. Chair for Goldilocks, bridge for billy goats display stands house for a mouse	construction kits sheet materials, reclaimed materials
1	*Combining fruits/vegetables according to their sensory characteristics *Learning about a range of fruit/vegetables	Understanding of the properties including taste, texture and appearance of a range of fruit and vegetables (1b)	fruit jelly yoghurt drinks smoothies kebabs salads	food
2	*Using wheels, axles and axle holders	Attempt to create a vehicle which represents their	fire engine tractor	reclaimed materials

	*Understanding that wheels can be attached tightly or run freely on an axle	original idea (2c)	dragster carnival/Olympic float wheelbarrow shopping trolley skateboard push or pull toy design a vehicle for a book character	
2	*Using a template *Using simple joining techniques	Stitch two pieces of fabric together and add features using appropriate materials and techniques (2b)	fabric placemat/coaster bookmark simple bag soft toys/puppets fabric tree decorations	textiles
2	*Using winding/winch mechanisms	Communicate ideas clearly and make a model with two or more winding mechanisms (2a)	machines for Bob the builder design a machine for little Red Hen, Little Miss Muffet, Hickory Dickory, Lighthouse Keeper, Rapunzel, Pussy in the well etc.	reclaimed materials construction kits
3	*Using strong shell structures or *Strengthening framework structures	Make judgements about their product in relation to their design idea and suggest improvements to their original design (2a)	disposable/recyclable lunchbox gift boxes/bags pencil/desk tidy toy furniture stick puppet bird feeder mobiles for home/garden	sheet materials
3	*Combining fresh, pre-cooked and processed foods according to their sensory characteristics	Prepare a snack and discuss how it meets a given purpose (3c)	dips/dippers toasties pitta pockets tortilla wraps sandwiches vegetable/salad snacks with rice or pasta pizza soup	ingredients
3	*Using a simple pneumatic system to create movement	Work as part of a team to design and make at least one moving part controlled by a pneumatic system (3b)	jack-in-the-box Santa in the chimney robot arm puppet theatre moving vehicles	syringes piping reclaimed materials
4	*Using a 2D fabric shape to make a 3-D product *Using patterns/templates and fastening techniques	Make mock ups of their ideas before measuring, marking out, cutting and assembling with accuracy (3b)	purse/wallet pencil case sunglass case beach bag/pump bag toilet bag belt bag bits and bobs bag wall hanging mask	textiles needle/thread accessories fasteners e.g. a button
4	*Using levers and linkages *Distinguishing between fixed and loose pivots	Produce labelled diagrams of ideas to be made at a later time (3a)	poster book greetings card shadow puppets/ordinary puppets	sheet materials paper fasteners
4	*Using simple switches and circuits to make a functional	Produce a step by step plan for the production of	table light traffic lights	circuitry reclaimed

	product	chosen design (3a)	fairground stall puppet theatre lighting electrical board game torch/portable light	materials
5	*Using cams to change rotary movement into linear/reciprocating movement	Use tools and equipment accurately and safely to create a quality outcome that meets the original design specification (4c)	vehicles that bob up and down toys that bob up and down greetings card puppet theatre	wheels tools wood sheet materials reclaimed materials
5	*Adapting a recipe by adding or substituting an ingredient *Changing ingredients by using a heat source	Use experience of food ingredients and cooking methods to help generate ideas (4c)	muffins/pastry items bread biscuits scones crumbles snack bars	ingredients
5	*Knowing that the working characteristics of materials affects the way they are used *Using different combinations of materials to create functional products	Give clear reasons for choosing a specific idea, taking into account construction methods, appearance and function of product (4b)	musical instruments masks insulated boxes drinks can holders packaging	reclaimed materials sheet materials
6	*Reinforcing and strengthening framework structures *Relating strength to shape	Carry out thorough tests and suggest several alternatives before making improvements to work (4a)	bridges towers shelters gazebos parasols kites street furniture adventure playground equipment	sheet materials reclaimed materials wood
6	*Using a combination of pattern pieces and fabric shapes to make a 3-D product *Accuracy in pattern making	Know that resources are a constraint but can still plan costs and own time, and take account of the best materials to use for a product (5c)	slippers/sandals soft toys clothing bag for sports/pegs etc. wall hanging with storage pockets mask accessories e.g. cap/hat cover for ipad/DS etc.	textiles needles/thread accessories e.g. buttons, sequins
6	*Using pulleys or gears *Using switches and circuits to achieve functional results	Work out how to use belts and pulleys to make a mechanism work (4a)	revolving advertisement fairground ride controllable vehicle lifting bridge electrical winch	circuitry recyclable materials sheet materials