DESIGN & TECHOLOGY POLICY FOR SHAKESPEARE PRIMARY SCHOOLS

To be reviewed: every 3 years

Adopted by Governors: Nov 2009

Amended and Reviewed by PH: Jan 2022

To go to: Curriculum Committee

Approved by Governors: 17/01/2022

This policy reflects the school's values and philosophy in relation to the teaching of Design and Technology. It sets out a framework within which staff can operate and gives guidance on planning, teaching and assessment.

The policy should be read in conjunction with the Programmes of Study for Design and Technology in the National Curriculum which set out in detail what pupils are taught.

Audience

This policy document, having been presented to and agreed upon by the whole staff and the Governing body, is stored electronically on the intranet.

What is Design and Technology?

Design and Technology is a 'hands on' subject in which pupils have the experience of evaluating, designing and making products of a high standard. Design and Technology encourages children to examine their environment, question the world and to think about how and why things work the way they do.

Design and Technology presents children with a series of real-life scenarios, where children become autonomous creative problem solvers. The children will combine practical exercises with the more abstract notions of aesthetics, functional design and making skills. As they do this they will develop their ability to evaluate past and present designs, the uses they have and the impact they have on the real world. Through their Design and Technology, children become more focused on what makes a successful product and more imaginative in how a product could be made or improved.

Design and Technology should draw on the child's knowledge and experience from other subject areas particularly Literacy, Numeracy, Science, Art and ICT.

Design and Technology should always be a relevant, enjoyable and creative activity for all children.

Aims

- To provide opportunities for children to experience designing, making and modifying.
- To enable children to work in a range of appropriate contexts (home, school, community, recreation, business, industry) using a variety of materials, including card, textiles, construction materials and food.
- To promote positive attitudes towards and enthusiasm for D and T work in school.
- To provide hands on experience where the real world can be investigated, changed and perhaps improved.
- To encourage a healthy attitude to safety through correct procedures involved when using tools and equipment.
- To follow the National Curriculum for Design and Technology and ensure a well-balanced coverage of all aspects of Design and Technology.
- To develop children's Design and Technology capability through practical activities, where children are encouraged to discuss and analyse their work to justify the ideas, materials and techniques they have used to propose modifications and improvements.

The National Curriculum and Attainment targets for Design and Technology

The subject consists of 5 areas of study designing, making, evaluating, technical knowledge and cooking and nutrition. Expectations are specific to each year group from Year 1-6 and are outlined in the Year Group Expectations document. Technical knowledge expectations are specific to the groups of two years (1-2, 3-4, 5-6) and coverage of these skills will be split evenly between the two classes. It is expected that children will reach age related expectations in this subject.

Teaching and Learning

In the teaching and learning of Design and Technology, we can identify a number of subject specific areas of knowledge, concepts, skills and attitudes that are developed.

Concepts

- Materials and their working characteristics
- Products and their applications

- Quality and fitness for purpose
- Structures and forces
- Control
- Safe working
- Aesthetics

Skills

- Designing
- Imagining
- Generating ideas
- Clarifying the task
- Developing ideas
- Communicating ideas
- Organising and planning others and appreciate the needs of others
- Talking, drawing, researching, reflecting, modelling, and applying knowledge from other curriculum areas

Making

- Cutting, shaping, joining, combining, finishing, and measuring
  These all include:
  - Manipulative skills
  - Observation skills
  - Aesthetics skills

Planning and evaluation

- Selecting
- Choosing
- Working safely
- Critical awareness

Attitudes

- Develop persistence in seeking solutions to problems
- Develop desire to improve on solutions
- Learn to work with others
- Recognise the benefits of D and T in everyday life and draw on own experiences.

Curriculum and school organisation

It has been decided to teach Design and Technology skills in a focused Design Technology term in school each year. Elements of design technology are cross curricular and will be integrated into the curriculum at other times during the year. Lessons will be carefully planned by teachers to ensure all children cover the skills and knowledge required to reach age-related expectations.

These creative curriculum plans follow the guidance contained in The National Curriculum document for Design and Technology that comprises of Programs of Study and age-related expectations.

Learning activities are sequenced to ensure progression and are taught through a variety of approaches.

These include:

a) Teacher led lessons where information is provided.
b) Group work where the children discuss problems in small groups.
c) Class discussion lessons where members are encouraged to join in with their personal opinions.
d) Teacher prepared materials.
e) The use of outside speakers with relevant experience.
f) The use of audio-visual aids in presenting material to the children, including artefacts.
g) Educational visits to enhance the children's learning and natural curiosity.
h) The use of published schemes.

Design and Technology is taught through a combination of direct teaching to introduce new skills, and providing pupils with real experiences through appropriate contexts. There are practical activities for children, educational visits and use of teacher prepared materials, everyday items and other resources such as TV and IT where

appropriate. Children will have opportunities to experience textile and food technology at least once during each key stage.

Each class teacher ensures that, throughout the year, all skills appropriate will have been covered. Subject planning for Design and Technology is usually incorporated into year group creative curriculum planning and evaluation is ongoing. This is seen in teacher's initial and long-term planning. Planning and evaluation is also undertaken throughout a DT project and can be seen in short term planning.

In learning in Design and Technology, Foundation Stage children will work within the Area of Learning, Knowledge and Understanding of the World, progressing through the Stepping Stones, leading to the Early Learning Goals. Areas to explore and practice essential DT skills are provided within the classroom environment.
All class teachers teach Design and Technology. One member is designated as the Curriculum Co-ordinator.

Throughout DT an iterative approach to the subject will be used. This should allow children (where possible) to simultaneously design, make, evaluate and improve. Children should be given the opportunity to repeat making tasks even if the design criteria is met to ensure the best outcomes. Where this is not possible (due to material and time constraints) attempts should be made to provide prototyping opportunities before the main making session (such as using j-cloths to practice sewing patterns).

Time allocation

The organisation of Design and Technology as part of a topic approach may differ between each year group, as well as each Key Stage. Consequently, the amount of time allocated to Design and Technology in any one week or term may vary. Sometimes Design and Technology work is intensive within a project until completion, achieving a balance with other curriculum areas over the longer term.

Class teachers and the Design and Technology co-ordinator will endeavour to ensure the subject is adequately represented in terms of the overall timetable in each class, through the monitoring of long-term plans.

Planning

Planning is used to:

- Set clear objectives
- Ensure work is matched to pupil's abilities, experience and interests
- Ensure progression, continuity, and subject coverage throughout the school following the creative curriculum plans and the DFES/QCA Curriculum Guidance for the Foundation Stage.

The school uses the National Curriculum programmes of study to plan a creative curriculum.

Curriculum planning is yearly (long term) medium (termly) and weekly (detailed) using the school's own system of plans. Planning is the responsibility of individual teachers with co operation between teachers in a key stage also required.

Class organisation and teaching style

Class teachers are responsible for their own classroom organisation and teaching style in relation to Design and Technology, while at the same time ensuring these complement the overall aims and philosophy of the school.

Within any one class, children are given the opportunity to work as a class, as part of a group and as individuals. There are occasions when whole class activities are appropriate in the teaching of Design and Technology. These may include the introduction of a new topic, a new skill or activities leading to further group work (or when an activity generates so much excitement and enthusiasm it is impossible to work with only one group at a time). Group work eases pressure on resources and also offers the children the opportunity to work together, share ideas, offer suggestions and decide details. This enhances communication skills and the acquisition of technical vocabulary. Groups may be organised by ability (mixed or similar), age, friendship or other criteria. Group work is organised so as to promote co-operation and effective learning and understanding.

Children will be provided with designing and making assignments, focused practical tasks (where they can practise a particular skill) and activities in which they can investigate, disassemble and evaluate simple products. A variety

of resources are provided for the children and they are encouraged to make choices for themselves. Some of these resources are permanently accessible to the children.

Assessment

When assessing children's progress in Design and Technology, teachers need to consider:

- Knowledge of a variety of materials, tools and equipment
- Understanding of mechanisms and structures
- Ability to use materials and equipment safely
- Ability to communicate the design ideas and explain the purpose of what they are doing.
- Interest and motivation
- Ability to appreciate and produce items of quality

See the whole school policy on assessment for further details.

Record keeping and reporting

Records of pupil achievements are kept to:

i. plan pupils' future learning

ii. report progress to parents

iii. maintain a written record of pupils' learning

iv. provide a curricular record for each pupil.

The records are intended for use by teachers in school, support staff, relevant outside agencies i.e. OFSTED, parents and teaching staff of transfer school.

Records are completed and updated as and when by the class teacher. Each pupil will keep complete an assessment of the topic they have covered. This will provide a basis of recording and reporting.

Record keeping and records are monitored and reviewed by the Headteacher.

Records are transferred to the next class teacher at the end of the school year by the previous teacher and to the next school by the Headteacher.

Reporting to parents is intended to give a clear and helpful picture of pupils' progress. Parents are invited to attend Parents' Evenings in October and February of each year to discuss their child's progress, and formally or informally at any mutually convenient time by arrangement with the Headteacher or the teacher concerned.

Parents of all pupils receive a written report each year in July. This report complies with statutory requirements and provides parents with information regarding academic achievement in each subject, progress in school and other skills and abilities. The reports are completed by class teachers and signed by the Headteacher

Co-ordinator role

In planning, the coordinator should:-

a) Plan work with teachers
b) Review and contribute to teacher planning
c) Develop and amend the policy and monitor coverage throughout the creative curriculum.
d) Prepare and evaluate subject development plan

The coordinator will assist staff by:-

a) Leading staff meetings
b) Planning/leading INSET activities
c) Providing consultancy/advice
d) Specifying and ordering all resources
e) Coordinating staff requests for resources
f) Monitoring and maintaining condition and availability of resources.

The coordinator's responsibility for monitoring and evaluating includes:-

a) Analyzing pupil's access to the subject
b) Reviewing teachers plans
c) Reviewing teacher/pupil records
d) Reviewing assessment
e) Leading curriculum meetings

Resources

A central resource area is located in the school for teachers to access. Each year group has its own resources, including published schemes, some teacher prepared materials, models and CD roms.

An inventory of resources is available. It outlines Design and Technology materials available and the teachers' resources. Resources are shared and all staff including visiting students have equal access to all resources. Junk materials are stored in classrooms if needed. Reception classes have junk materials easily accessible to the children at all times.

It is the responsibility of the teacher and co-ordinator to review the use of resources and which ones will be replaced or purchased. The co-ordinator will monitor the use of resources and organise the technology store. Staff are asked to inform the team if any resources are damaged or need replacing each year. Staff are also asked to submit to the co-ordinators lists of any resources to be added to the existing stock.

The purchase of resources is planned each year by the Design and Technology co-ordinator based on the budget. The budget will reflect the degree of priority which Design and Technology is being given in the school development plan for that particular year.

The co-ordinator reviews the use of resources and their storage annually in consultation with the rest of the staff. Recycled materials do not need to be purchased specifically but can be found in school in the classrooms, or by requesting the children to bring them in from home.

INSET Provision

Staff development in this area of the curriculum is available through county courses, staff meetings, and meetings with colleagues from other educational establishments.

Equal Opportunities

All teaching and non-teaching staff is responsible for ensuring that all pupils, irrespective of gender, ability, including gifted children, ethnic origin and social circumstances have access to the whole curriculum, and the opportunity to make the greatest progress possible in all areas of the curriculum, while in our school.

Individual teachers consider carefully the groupings they have. The use of differentiation by outcome allows children to respond to the work presented to them at an appropriate level.

Whatever form of class organisation we try to ensure at our school that no child adopts a passive role in Design and Technology activities.

Special Educational Needs

Two main areas where special needs pupils may encounter difficulty are communications and making things. Design and Technology offers the opportunity for children to achieve in a practical subject, as they are encouraged to communicate in a different way, for example use of ICT.

In order to provide work that is appropriate to the learning experiences of the individual children it is necessary for the teacher to be aware of the statements/individual educational programmes that apply to the children in the class that he/she is working. This will assist in the planning of differentiated material for the class so that all children will be able to achieve at the level that is appropriate to their abilities.

Children who are physically disabled in muscular control and co-ordination may have difficulty in using some tools. Sensitive grouping encourages shared expertise, and this minimises difficulties in specific areas.

Evaluation

Evaluation is carried out to enhance the teaching and learning of Design and Technology within our school. It is the responsibility of all staff, both teaching and non-teaching, to monitor and evaluate the curriculum provision made for Design and Technology, in order that pupils make the greatest possible progress. Detailed evaluation is undertaken by the co-ordinator.

Some evaluation is ongoing and occurs through observation and discussion of children's work. Children are encouraged to evaluate their own work.

Monitoring of teachers planning to ensure coverage of the programme of study is done to ensure plans are actively put into action in the classroom. The co-ordinator has copies of all long-term plans and uses these to monitor and evaluate curriculum provision.

The Design and Technology co-ordinator works together with year groups / Key stages to consider any necessary changes or adaptations to the policy and scheme of work. These are then discussed and agreed by the whole staff before any amendments are made. Throughout the year, the whole staff is encouraged to feedback information and ideas to the co-ordinator. This may include comments on how a topic is progressing, availability and suitability of resources and any other relevant comments. The timescale involved in evaluation may differ from year to year and is decided by the priority given to Design and Technology in SDP, e.g., time allocated for classroom observations.

Health and Safety

All teachers must ensure DT activities in their classroom are in compliance with CLEAPSS and COSHH guidelines. CLEAPSS guidelines are set out in picture form on the CLEAPSS DL111 form (a copy of which can be found in the folder attached to the back of the DT cupboard door). COSHH sheets detailing control measures for all hazardous substances used in school are available from the school office. While individual class teachers must judge for themselves whether their class is able to use a particular resource the following guidance must be adhered to:

Clamps: Pliers/Vices/Punches

Children may use these pieces of equipment when their strength of grip enables them to operate the tool. N.B. eyelet punches require a considerable amount of strength to control so should be used only by teachers or older children. Clamps should be used where possible to hold wood when drilling or sawing.

Cookers

Once instruction has been given, children may be allowed to operate the cooker under **close** supervision.

Drills

Hand drills: These may be used by children after training under supervision. When the teacher is satisfied that the child has become competent in the use of this tool they may use the drill in the classroom by themselves (Unsupervised in KS2 only). A Richardson perspex block has been provided with guide holes to direct drilling where possible. This should be clamped over the wood. The fixed drill on the tool bench top can also be used to stabilize drilling.

Power Drills: Not for classroom use.

Paper Drills: Have been provided as a safer way of punching holes in card and paper. These should be used with a non-slip mat from the DT cupboard.

Safety Glasses
These should be worn when there is a risk of damage to the eyes.

Food Hygiene
Children should be made aware as early as possible of the need for hygienic food preparation. Teachers should train the children to prepare food hygienically and supervise preparation. Cutting boards are colour coded and labelled to prevent contamination between different types of foods.

Glues
Pritt-Sticks: These may be used by children as soon as they are competent not to get any in their eyes, mouth etc…

PVA/Hobby glues: As above in addition to some training and then general supervision.

Wood Adhesive: This should only be used by the teacher or under direct supervision

Wallpaper paste: This should be used only by adults as certain children can have allergic reactions to the fungicides in the paste. It is recommended that for papier mache a mix of PVA glue and water is used as this is less likely to cause an allergic reaction.

Solvent Glues: While the Borough allows use of solvent based glues after training and under close supervision, it is the recommendation of this policy that children use only water based glues.

Glue Guns: Only low temperature glue guns should be used. They can be used by children from Year 1 onwards with close supervision and where staff are sure the children are competent in their use. Stands for the glue guns are attached to the guns themselves and should be used to keep the gun upright when not in use. No glue gun should be left switched on and unattended at any time. Guns that are cooling after use should be kept well away from children. Cold water should be available near the gun at all times during use in case of burns.

Paper Trimmers
These may be used by children after instruction under general supervision. While the Borough does not specify a key stage or year group, it is the recommendation of this policy that only children in years 5 and 6 and possible some mature year 4 children, at the discretion of the teacher be allowed to use a paper trimmer.

Hammers
Children may use a hammer as soon as their motor skills allow them to hit the nail accurately and as soon as they are disciplined enough to stay on task. Children must use a comb from the DT cupboard to hold a nail upright whilst keeping fingers well away from the hammer.

Smaller weight hammers are sufficient for most jobs in the classroom.

Claw hammers and Club Hammers are not for use in the classroom.

Knives
While use of scissors is preferable, children may be required to use knives for their Design and Technology work. They should only be used by older children and can be used once they have learnt the rules, techniques and skills for cutting. They should be closely supervised while working with a knife. All knives must be returned to the DT cupboard after use. For any cutting a non-slip mat from the DT cupboard should be used.

Paints
Children should use water based paints only. These may be used under general supervision. Emulsions (house paints) should be used by adults only or with older pupils under supervision.

Plastics
Plastic sheeting should be cut using scissors and ay be used at any age where the pupils are competent with scissors. Years 5 and 6 may sand plastics but only after training and under supervision. Hot wire cutters should only be used by a competent teacher.

Sanding/Filing
Sandpaper/Emery paper/Files: Sanding and filing may be carried out using these tools under general supervision as soon as the children's motor skills are sufficient. Children must use a sanding block from the DT cupboard whilst using sand paper.

Orbital sanders: These should be used by teachers only. They are not for classroom use.

Edge grinders: Not for use in school.

Saws – Hand Hacksaws and Junior Hacksaws:
These are suitable for most jobs and may be used by the children providing they have undergone some training and have the appropriate motor skills. Where possible bench hooks should be used to protect fingers and these should be viced or clamped to the desk over a non-slip mat (see DL111 folder for picture).

Tenon Saws: As they are slightly larger, these saws are better suited to older children with finer motor control. The children using these should undergo some training in the use of a tenon saw.

Larger saws: For example coping saws and bow saws should not be used in class.

Power saws: Power saws should not be used in school.

Scissors

Paper cutters: These should be used by the youngest pupils until they have the motor coordination to use scissors.

Blunt ended scissors: These may be used as soon as the children can actually handle them under general supervision.

Sharp ended scissors: These may be used under general supervision once the children can be relied upon to use the correct techniques.

Safety snips: These may be used under general supervision once the children can be relied upon to use the correct techniques.

Tin Snips: These should be used by adults only.

Left handed scissors/snips: While most children are right handed, left handed scissors and snips should be made available for left handed children.

Nails and Pins
These may be used under general supervision once the children have been trained in their use. Combs must be used to keep the nail straight, upright and away from fingers during hammering.

Sprays – Paints/Fixatives
These should only be used by adults in well ventilated areas. They should not be used in the presence of children.

Staplers
Mini staplers may be used by children under general supervision. Heavy duty staplers may be used under close supervision until the children are competent. Electric staplers are never to be used in the classroom. Staple guns are to be used only by trained adults.

Updated Jan 2022 – Paula Haughton