



Design and Technology Policy

May 2024

Document control and record of amendments

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1. Curriculum Intent

This subject policy is designed to support the overall curriculum intent of Elmbridge Primary School. This is summarised as:

- The Elmbridge curriculum will evolve to reflect the knowledge and skills needed for life in the 21st Century
- Our pupils will be confident to embrace the next stage of their learning
- Pupils will have enquiring minds, be independent and resilient
- Pupils will value the importance of reading and be able to communicate ideas effectively
- Staff and pupils will know how to look after their physical and mental health
- Staff and pupils will show respect, tolerance and compassion for each other

DT Curriculum Intent

Create, make, evaluate

Design and Technology inspires children to solve the world's problems. By designing, making and evaluating, our children use their technical skills and knowledge to develop products fit for purpose, for a given audience, within a real life context. We encourage pupils to become confident, creative risk takers and problem solving citizens who will have the skills to contribute to future advancements in a rapidly changing world.

Cooking is a skill for life.

With regular cooking practise, our pupils will understand how to use tools safely to prepare healthy meals and follow recipes that make up a balanced diet. We want our pupils to understand the importance of maintaining optimal health through a varied diet and to enjoy the process of cooking. We encourage our pupils to be resilient chefs, taking creative risks in the kitchen through flavour and texture combinations by adapting recipes and evaluating through taste testing theirs and others meals.

2. Implementation

The Elmbridge DT curriculum is underpinned by four main strands of the design process and as outlined in the National Curriculum: design, make, evaluate and technical knowledge.

We use the Kapow scheme of learning to complement our DT curriculum which is organised into 6 units of work:

- Cooking and Nutrition
- Textiles
- Structures
- Mechanisms
- Electrical systems (KS2 only)
- Digital Worlds (KS2 only)

Each unit is taught over six weeks, with lessons taught weekly. This follows the design, make and evaluate process as well as teaching pupils key skills and technical knowledge with a given purpose. The Elmbridge DT curriculum is a spiral curriculum with key areas revisited to enable pupils to revisit and rebuild on previous learning. Units are progressive year upon year in KS1 and in KS2, each unit is organised over a longer term (12 weeks) across Y3/4 and Y5/6.

Alongside this, our pupils utilise our Shake and Bake cookery room at Elmbridge once during each half term to teach specific cooking skills, as outlined in the progression of objectives, skills and vocabulary. Through frequent, progressive skills lessons, children learn the key cooking skills that they will need to prepare them for future life. We also develop pupils' knowledge and skills to enable them to make informed choices both now and later in their lives by learning the importance of maintaining a healthy lifestyle and the importance of their role as a consumer. Disadvantaged pupils across Y1-Y6 are selected to participate in a one off cookery club which aims to develop these key skills further in order to enrich their cooking experiences.

The progression of objectives document outlines how the curriculum is progressive in DT and Cooking from Reception to Year 6.

Early Years

In Reception, DT is taught as an integral part of the topic work covered during the year. The principles of DT are taught discretely through adult led activities throughout the year. Cooking and nutrition is also taught through discrete teaching during topics and wellbeing. During continuous provision, our Reception pupils have

access to tools and materials to independently practise the key DT skills creating, joining, making, spreading, mixing and modelling.

DT makes a significant contribution to the end of the Reception year ELG's. By the end of Reception, pupils in DT and Cooking will be able to:

- ELG - Speaking - Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary; - Offer explanations for why things might happen, making use of recently introduced vocabulary from stories, non-fiction, rhymes and poems when appropriate
- ELG - Fine motor skills - Use a range of small tools, including scissors, paint brushes and cutlery -Begin to show accuracy and care when drawing.
- ELG - Managing Self - Manage their own basic hygiene and personal needs including dressing, going to the toilet and understanding the importance of healthy food choices.
- ELG - Creating with materials - Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function
-Share their creations, explaining the process they have used.

Key Stage 1

During Key Stage 1, pupils will design purposeful products for a given audience, using specific design criteria. They will develop their ideas by drawing simple labelled pictures, diagrams and they will use templates to create mock ups. Pupils will select from and use a range of tools and equipment to practise key practical skills to cut, shape, join and finish products, such as scissors, sewing needles, hole punches, staplers and knives.

Through this, pupils will make products using a range of materials according to their characteristics.

Textiles - puppets, Christmas stockings/ pouches

Structures - Windmills, Baby Bear's chair

Mechanisms - Moving story book, Ferris wheel

Cooking - Fruit kebabs, Healthy wrap

In doing this, pupils will gain a deeper understanding of structures, exploring how they can be made stiffer and stronger and more stable. They will also begin to understand how mechanisms work, such as sliders, levers, wheels and axles. Pupils will have the opportunity to explore and evaluate existing products as well as testing, adapting and evaluating their own products against their design criteria during each unit of work. Unit specific technical vocabulary is also taught throughout each topic.

In cooking and nutrition, pupils will understand the basic principles of a healthy, balanced diet and will prepare dishes by following simple recipes using safe chopping

techniques. They will begin to understand where food comes from such as fruit and vegetables and identify the five main food groups.

Key Stage 2

During Key Stage 2, pupils will use research and develop design criteria to inform the design of innovation, functional, appealing products that are fit for purpose, aimed at particular individuals or groups. They will generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional diagrams, prototypes, pattern pieces and computer-aided design. In making products, pupils will select from and use a wider range of tools and equipment to perform practical tasks to cut, shape, join and finish accurately. Through this, pupils will make a range of products by selecting and using a wider range of materials and components, according to their functional properties and aesthetic qualities.

Textiles - cushions, stuffed toys

Mechanisms - slingshot cars, pop up books

Structures - castles, bridges

Electrical systems - torches, steady hand games

Digital worlds - electronic charm, compass

Cooking - biscuits, 3 course meal

In doing this, pupils will apply their understanding of how to strengthen, stiffen and reinforce more complex structures, use mechanical systems in their products (gears, pulleys, cams, levers and linkages), use electrical systems in their products (series circuits incorporating switches, bulbs, buzzers and motors) and apply their understanding of computing to program, monitor and control their products using CAD and microbits. Pupils will have the opportunity to investigate and analyse a range of existing products, evaluating their ideas and products against their own design criteria and consider the views of others to improve their work.

In cooking and nutrition, pupils will understand and apply the principles of a healthy diet, prepare a variety of seasonal dishes using a range of cooking techniques - cutting, weighing, sieving, crumbling, rubbing, cooling, peeling, mashing, creaming, kneading and dicing. Pupils will begin to understand seasonality and know where and how a variety of ingredients are reared, grown, caught and processed.

Timetabling

DT lessons are timetabled for 45-50 minutes per week, which gives pupils enough time deepen their learning. When needed, 2 lessons may be combined over a two-week period; this may happen when pupils are making products.

3. Methodology

Planning

The DT curriculum has been planned to ensure there is progression from early years to Year 6 and so that lessons follow a deliberate sequence; this will enable pupils to build on previous learning, revisit areas of the subject in order to deepen their learning and allow for subject knowledge and skills to be built on as the pupil makes the transition between year groups. Curriculum objective planning is used to create medium term plans in each year group. Lessons are taught from medium term plans, but with the flexibility to respond to pupils' needs, as well as the contributions they bring to the classroom.

Teaching (see teaching and learning policy)

DT lessons may be driven by a statement, question or learning outcome. Lessons incorporate a range of teaching strategies, such as paired/ collaborative work, independent activities, hands on, inventive and computer based tasks. This ensures lessons are challenging, engaging and accessible for all. There will be explicit reference to previous learning when this is pertinent. Each cooking unit of work and one off cooking skills lessons will take place in the Shake and Bake room.

Recording

Pupils will have a variety of opportunities to demonstrate their learning. This may include:

- Dialogue between pupil and teacher/teaching assistant
- Models, photographs, video recordings when products are completed (using Tapestry in KS1, on T drive in KS2, or in booklets)
- Design criteria, drawings and diagrams, evaluations, in DT booklets

Supporting Reading at Elmbridge Primary School

At Elmbridge Primary School, Reading is everything. DT will support reading by:

- Use of current news/magazine articles on latest food welfare issues
- Use of school or library cookbooks, printed recipes
- Internet research

Enrichment and Cultural Capital

- Day trips -
 - DT sessions at Churchdown School Academy
 - Y2 farm trip
 - Y4 Wagamama trip
 - Y1 Pizza express trip
- Stem visitors
- Cultural arts food tasting
- Extra-curricular clubs
 - Sewing
 - Lego
 - Cooking

Health and Safety

Adults should ensure that:

- DT equipment is not left out and unsupervised, floors and work surfaces are kept clean and tidy and all tools used must be of good quality, in good condition and stored safely in the DT cupboard (Junior site).
- Direct safety instructions should be given to children each time they undertake a design and technology or cooking activity.
- Adult to child ratio must be appropriate to the activity e.g. closer supervision on activities such as use of a glue gun, knives, hand saws.
- Children should be taught to recognise and consider hazards and risks and to take action to control these risks, having followed simple instructions.

4. Impact

Formative and Summative assessment

The school uses the principles of on-going formative assessment, which helps them understand what a pupil has learned and will help dictate the next steps. Teachers may use lesson tasks, quizzes, observation, dialogue and video recordings to help determine pupil attainment. Pupil attainment against the curriculum strands will be recorded to help identify any gaps in learning.

Monitoring

Subject leaders are responsible for monitoring the standards in their subject. They should aim to formally monitor their subject 3 times per year and complete a monitoring report form, which is then shared with the SLT. The Monitoring should link to the subject action plan and may, in turn, lead to new action points being set. The subject Governor should be invited to support the monitoring at least once per year (see T&L policy).

Moderation

Part of the role of the subject leader is to organise moderation across the different classes and year groups (this could be as part of a staff meeting or during PPA time). They may decide to keep a portfolio of exemplars in order to help staff understand the standards in each particular year group. The subject leader should also aim to make links with other schools, so standards can be judged against those in other settings.

5. Continuing Professional Development

The subject leader should aim to keep up to date with their own subject knowledge and skills, as part of their on-going appraisal. They should, in turn, ensure that teachers have the relevant knowledge and skills they need to deliver high quality DT and Cooking lessons. They may decide to:

- Audit staff knowledge in order to identify gaps
- Deliver training during staff meeting, Twilight or INSET
- Invite external experts to deliver training

6. Equal opportunities

All children have an entitlement to access the DT curriculum and all children will have access to the resources within the school. All children will be given the opportunity to participate in all activities regardless of gender, race or ability. This will be supported by:

- Providing differentiated work when needed e.g. using premade templates, specific scissors, adapted booklet pages, printed recipes, visual cues for diagrams
- Using TA/Teacher support and/or interventions for pupils who need to catch up
- Referring to MY PLANS or EHCP targets for SEND pupils e.g. touch typing
- Supporting EAL pupils with resources available in school
- Monitoring the progress and attainment of disadvantaged pupils

7. Spiritual, Moral, Social and Cultural Development

As a school, we **work together** to enable our pupils to be:

Ready, Respectful, Safe

Elmbridge Primary School supports SMSC in all subject areas. In DT this may look like the following:

Spiritual development

DT provides an opportunity for children to develop curiosity, creativity and an enjoyment of designing and making products. Skills learnt in DT and cooking lessons gives children important practical skills that will prepare them for life in the adult world. Pupils are encouraged to design and make products for a given audience, based on their values and respect for other people. They use tools, materials, equipment and technological devices to be creative and to represent their own learning. DT provides opportunities for reflection of awe and wonder about the achievements of technology today and the possibilities for the future.

Moral development

DT provides an opportunity for pupils to reflect on solutions to real life problems in the world e.g. bridges, toys, torches, compass, cars. Issues and moral dilemmas linked to various life experiences are discussed and learnt about, for example, processed food, the welfare standards and food miles. The consequences of a food consumer's actions are discussed in class with a focus not just on themselves but also the impact their actions may have on other people. Pupils are given the opportunity to listen to each other's opinions and to evaluate their own and peers work using constructive criticism.

Social development

As part of the DT curriculum pupils are taught to produce work that is suitable for a particular audience. DT lessons guide pupils to consider how to express themselves clearly, communicate effectively and show respect to others. Some projects in DT may be collaborative, encouraging children to work together and co-operatively with their peers.

Cultural development

During cooking units, EYFS topics and cultural arts week, pupils research, investigate and evaluate ingredients and dishes that originate from other parts of the world. Learning links are made across subjects where appropriate, for example science, maths and art.

8. Links to other Policies

Elmbridge Primary School will consider DT when developing other policies, in particular:

- Teaching and Learning
- Health and safety
- SEND
- Staff Development
- Assessment & Feedback
- SMSC Development
- Off-Site Visits
- Pupil Premium

10. Links to other subjects

Links to other subjects

Connections to other subject areas may be made when teaching DT, if they help a pupil develop their knowledge and understanding of other subjects and the DT curriculum. These may include:

- Art - sketching, observational drawing, architects, textiles
- Maths skills - graphs, angles, calculations, measuring
- Wellbeing principles - healthy eating, financial education
- Science - food origins, farm to fork, electrical circuits, forces, materials
- Computing - digiblocks
- English - biographies
- Geography - fair trade
- History - architects
- Music - Making musical instruments