DESIGN AND TECHNOLOGY POLICY

CAPTAIN WEBB PRIMARY SCHOOL

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Agreed By			

Captain Webb Primary School

Design and Technology Policy

Design and Technology involves applying knowledge and skills when designing and making products. The activities undertaken will enable our children to consider the needs of individuals and society within a caring community. Undertaking design and technology activities in school will give our children a clear purpose, opportunities to use a range of materials and processes and to work independently or as part of a team. The project undertaken at Captain Webb Primary School will also reflect the children's local environment and support them in the wider world.

1. Aims of teaching

At Captain Webb, we want children to be inspired and enthused by the idea of designing, creating and making. Our Design and Technology curriculum allows children to exercise their creativity and become critical thinkers. Throughout their time at Captain Webb, children make meaningful cross-curricular links and apply the knowledge and skills they learn in other subjects to produce meaningful products. Our practical, design-centred learning teaches children to take risks and become resourceful, innovative and enterprising individuals. Through our Design and Technology curriculum, we provide pupils with key knowledge, which enable them to develop the skills required to become future builders, designers and engineers of the world.

2. Teaching and learning

Our pupils leave Captain Webb with all of the knowledge and skills required to be innovative risk-takers. Our curriculum has been thoughtfully planned to ensure that the knowledge children have is built upon within every Design and Technology unit. Knowledge within our Design and Technology curriculum is split into several stands, including Food, Cooking and Nutrition, Structure, Textiles, Mechanisms (KS1) and Mechanical & Electronic Systems (KS2). These are mapped out across year groups to ensure progression.

Our planning ensures we teach the knowledge, understanding and skills needed to engage in the exciting process of designing and making. Children are required to plan and create products that consider function and purpose, and which are also relevant to real-life scenarios. Children look at existing designs to analyse and assess their effectiveness and then they consider ways of redesigning and reconstructing it to improve its overall success. At Captain Webb, we encourage children to use their imagination to design and make products that solve real and relevant problems within a variety of contexts. Our children are required to consider others' wants and needs by following a design brief.

3. Programmes of study

The table below outlines the units that we teach across Key Stages 1 and 2.
Theme topic / Activity

D&T	Food, Cooking and Nutrition	Structure	Textiles	Mechanisms KS1 Mechanical & Electronic Systems KS2
Year 1	Homes Under the Hammer Healthy salads	Enchanted Woodland Flower boxes		Superheroes Moving pictures
Year 2	Muck Mess and Mixtures Perfect pizza		Land Ahoy Hand puppets	Towers, Tunnels and Turrets Making castles/towers
Year 3	Gods and Mortals Greek pittas	Scrumdillyumptious Food packaging		Tremors Moving book
Year 4	Potions		1066	Road Trip USA

	Seasonal soup		Wall hang – Battle of Hastings (Bayeux Tapestry)	Explorers torch
Year 5	Allotment Healthy flapjacks	Stargazers Solar panel structure		Scream Machine Toy fairground ride
Year 6	Hola Mexico Mexican meal		Evolution Patchwork quilt	Fallen Fields Army tanks

4. Foundation stage

Children in the Foundation Year will undertake investigative and skills-based tasks during independent working time. The Design and Technology area will be available to them on a daily basis and they will be encouraged to undertake focused practical tasks through directed and self-initiated stimuli. They will be provided with resources based on topics within the focus of the classroom and will be encouraged to design and develop ideas independently. Children in the Foundation Stage work on a range of creative themes and tasks, and their work in Creative Development links closely to other areas of the Foundation Stage Profile, especially Physical Development

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Key Stage 1

Through a variety of creative and practical activities, pupils are taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment]. When designing and making, pupils are taught to:

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

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 stronger, stiffer and more stable
- Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

Cooking and nutrition
As part of their work with food, pupils are taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.
Pupils are taught to:
- Use the basic principles of a healthy and varied diet to prepare dishes
- Understand where food comes from.

Key Stage 2

When designing and making, pupils are taught to:

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

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

5. Planning

Unit planning is available on the shared drive, alongside an extensive bank of online resources. Resources also include sketches and diagrams, teaching tips and techniques, suggestions on class organisation, links to resources and a glossary of technical terminology related to specific projects. Teachers consult these to ensure technical accuracy in their teaching. Each year group to ensure that these are progressive from one year to the next has mapped the key skills and knowledge for each Design and Technology Topic.

6. Cross-curricular links

Strong cross-curricular links are made throughout D and T units, with each unit linking to a purposeful project based on the classes Theme topics. Alongside these, children have the chance to embed Maths and English knowledge when completing the Design, Make and Evaluate cycle.

7. Assessment

Children's knowledge and skills are assessed and developed by the teacher during lessons and through critical discussion at the end of each unit. Teachers use the information they gather during projects about the performance of individual children and groups to provide carefully tailored feedback, questioning, explanation and support, according to their needs.
At the end of each unit of work, the identified key knowledge in DT is also checked, reviewed and consolidated, and this process is recorded in the children's theme books. Teachers check and refer to previous related knowledge at the beginning of each new DT topic.

8. Equal opportunities

Whole school policy on equal opportunities will be adhered to in Design and Technology activities. Teachers ensure that children have access to the range of Design and Technology activities and use opportunities within Design and Technology to challenge stereotypes. Children are encouraged and supported to develop their Design and Technology capability using a range of materials. Children with special needs or disabilities will be differentiated for and supported appropriately, to ensure development of skills and equal access to the Design and Technology curriculum.

9. Health and safety

It is important that children are taught essential life skills to enable them to participate confidently and safely in designing and making in society. Teachers have a duty to introduce children to a wide variety of production processes and the correct tools for the task and children are taught to use tools and equipment in a sensible, safe and efficient manner.
The subject leader, if required, supports teachers to implement the skills necessary ensuring that children can design and make safely and provides various risk assessments to accompany unit plans. All staff are aware of *CLEAPSS, which* can be used to support any practical science and technology.

10. Resources

Funding for Design and Technology will be within the school budget plan for each financial year. There is a central Design and Technology budget to cover the purchase of equipment such as tools, construction kits, consumable materials, books and other resource materials. The Subject Leader will be responsible for ordering equipment and materials related to the theme. It is the responsibility of each class teacher to identify additional resource needs in relation to their project.

11. Differentiation

In school, we aim to meet the needs of all our children by differentiation in our Design and Technology planning and in providing a variety of approaches and tasks appropriate to ability levels. This involves providing opportunities for SEND children to complete their own experiments, with support, to develop speech and language skills, as well as the skills and knowledge needed to carry out the design, make and evaluate process. This will enable children with learning and/or physical difficulties to take an active part in Design and Technology learning and practical activities to achieve the goals they have been set. Some children will require closer supervision and more adult support to allow them to progress whilst more able children will be extended through differentiated activities. By being given enhancing and enriching activities, more able children will be able to progress to a higher level of knowledge and understanding appropriate to their abilities.

12. Role of the subject leader

The subject leader will monitor the teaching and learning of Design and Technology across the school, ensuring a high quality, broad and stimulating curriculum. They will also support and facilitate opportunities that support the continued professional development of teachers in the teaching and learning of Design and Technology. The subject leader will maintain a range of good-quality materials and tools, which enable teachers to resource and teach the subject effectively. The subject leader will directly support the school's commitment to:

- Provide access to places of design and technological significance and learning outside the classroom
- Provide access to people with specialist design and technology skills from the local and wider community