

Design and Technology Policy

September 2020



POLICY STATEMENT:

Date	Review Date	Subject Leader	Nominated Governor
September 2020	September 2021	Mrs. Catherine Kerr	Mr J Wood

Design and Technology prepares children to take part in the development of today's rapidly changing world. Creative thinking encourages children to make positive changes to their quality of life. The subject encourages children to become independent 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, form and function, environmental issues and some manufacturing practices. This allows them to reflect on and evaluate present and past Design and Technology, its uses and impacts.

Design and Technology helps all children to become discriminating and informed consumers and potential innovators.

CURRICULUM AIMS AND OBJECTIVES:

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.

Aims

To ensure that all pupils:

- 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 foster enjoyment, satisfaction and purpose in designing and making.

LEGISLATION AND GUIDANCE

We believe this policy should be a working document that is fit for purpose, represents the school ethos, enables consistency and quality across the school and is related to the following legislation:

- Education Act 1996
- Education Act 1997
- Standards and Framework Act 1998
- Education (National Curriculum) (Temporary Exceptions for Individual Pupils((England) Regulations 2000
- Education Act 2003
- Equality Act 2010

The following documentation is also related to this policy:

- The Education Inspection Framework (Ofsted 2019)
- An investigation into how to assess the quality of education through curriculum intent, implementation and impact (Ofsted 2018)
- Designing and Timetabling the Primary Curriculum a practical guide for Key Stage 1 and 2 (Qualifications and Curriculum Authority 2002)
- Equality Act 2010: Advice for Schools (DfE)
- The National Curriculum in England Framework Document (DfE) 2014
- Race Disparity Audit Summary Findings from the Ethnicity Facts and Figures Website (Cabinet Office)

ORGANISATION AND PLANNING

Strategies

Implementation of National Curriculum 2014

In the National Curriculum for 5 - 11 year olds, Design and Technology is developed through the strands of s developed through **Design, Make, Evaluate, Technical Knowledge and Food Nutrition.**

The Early Years Foundation Stage

We encourage the development of skills, knowledge and understanding that help Reception children make sense of their world as an integral part of the school's work. As the Reception classes are part of the Early Years Foundation Stage we relate the development of the children's Knowledge and Understanding of 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 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.

The topic overview and skills progression are included with this policy along with the Key Skills to be completed across **both Key Stages 1 and 2**.

Contribution of Design and Technology 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. Discussion helps the children to develop an understanding that people have different views about Design and Technology. The children explain their designs orally or on paper and later, the evaluation of their products require children to articulate their ideas and to compare and contrast their views with those of other people. Through discussion children learn to justify their own views and clarify their design ideas.

Mathematics

Many of the Design and Technology units provide the opportunity to use their mathematical skills in real-life situations and contexts. The main areas of mathematics covered in these units are:

- real-life problems
- measure
- shape and space
- handling data

Science (STEM)

Many units provide opportunities for children to use and develop scientific knowledge and understanding. There are opportunities for pupils to use their knowledge and understanding through:

- working with a range of materials, eg: a range of fabrics and a range of different types of paper and card.
- working with electrical circuits and switches.
- working with food products related to healthy eating.

Computing

We use Computing to support Design and Technology teaching when appropriate. Children use software apps to collate research and to enhance their skills in designing and making. We use the internet to source a range of information and gain access to images of people, technological images and environments.

Art and Design

Many units provide opportunities for pupils to use and develop creative skills, knowledge and understanding. Opportunities exist for pupils to use their creative knowledge, skills and understanding through:

- the use of pattern, texture and colour.
- experimenting with visual elements such as pattern and shape.
- investigation of products from a range of cultures
- safe use of materials and tools.

Personal, Social and Health Education (PSHE) and Citizenship

Design and Technology contributes to the teaching of personal, social and health education and citizenship. 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 also learn through their understanding of personal hygiene, how to prevent disease from spreading when working with food.

Resources

Our school has a range of resources to support the teaching of Design and Technology across the school. Classrooms have a range of basic resources, with the more specialised equipment being kept in the Design and Technology/Art school store. Audits will be carried out regularly to monitor the resources, any shortfalls should be reported to the coordinator who will arrange for replenishment. The junior library contains a selection of Design and Technology books.

Health and Safety

The general teaching requirements for health and safety apply in this subject. Children are taught how to follow proper procedures for using tools and equipment along with food safety and hygiene.

REMOTE LEARNING

Teachers in each year group will together develop contingency plans to deliver the Design and Technology curriculum to pupils if remote learning is required.

Contingency plans will operate on a mini-project basis which will:

- Use a curriculum sequence that allows access to high-quality online and offline resources and teaching videos and that is linked to the school's curriculum expectations
- Give access to high quality remote education resources
- Make use of the online tools that are consistently used across the school in order to allow interaction, assessment and feedback to pupils
- Provide printed resources, such as textbooks and workbooks, for pupils who do not have suitable online access
- Be inclusive of SEND pupils and their families

DIFFERENTIATION

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 where not all children complete all tasks;
- providing a range of challenges through the provision of different resources;

 utilising additional adults to support the work of individual children or small groups.

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.

ASSESSMENT FOR LEARNING

Teachers assess children's work in Design and Technology by making assessments as they observe them working during lessons. Teachers collect examples of the children's' work and forward them to the coordinator for inclusion in the Design and Technology portfolio. This evidence may be paper-based or electronic (Seesaw).

The Design and Technology subject leader keeps evidence of the selection of children's work at different ability levels, forwarded by class teachers, in an online portfolio. This demonstrates what the expected level of achievement is in Design and Technology throughout each year in the school.

MONITORING ARRANGEMENTS

Monitoring of standards of children's work and the quality of teaching is the responsibility of the subject coordinator supported by the Co-Headteachers and the Senior Leadership Team.

Standards will be monitored by:

- looking at pupils' work
- subject observations
- pupil discussions
- audit of subjects
- scrutiny of planning
- general curriculum discussions

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 coordinator. The work of the coordinator 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. The Design and Technology coordinator has allocated non-contact time in order to review evidence of the children's work and monitor and evaluate the quality of Design and Technology teaching across school.

We teach Design and Technology to all children, with due regard to their ability. Design and Technology also forms part of our school curriculum policy to provide a broad and balanced education to all children. Teachers provide learning opportunities that are matched to the needs of children with learning difficulties. Work in design and technology takes into account the targets set for individual children in their Individual Education Plans (IEPs).

TRAINING

All school personnel:

- have equal chances of training, career development and promotion
- receive training on this policy on induction which specifically covers:
 - National Curriculum programmes of study and attainment targets for all subjects
 - Curriculum
 - Teaching and learning
 - Planning
 - Differentiation
 - Assessment
 - Monitoring and Evaluation
 - Special Educational Needs
 - Academically More Able, Gifted and Talented Pupils
 - Key skills
- receive periodic training so that they are kept up to date with new information
- receive equal opportunities training on induction

ROLES AND RESPONSIBILITY FOR THE POLICY

Role of the Governing Body

The Governing Body has:

- appointed a member of staff to be responsible for the curriculum leadership of Design and Technology;
- delegated powers and responsibilities to the Co-headteachers to ensure all school personnel and stakeholders are aware of and comply with this policy;
- responsibility for ensuring compliance with the legal requirements of the National Curriculum;
- responsibility for ensuring that the school complies with all equalities legislation;
- nominated a designated Equalities governor to ensure that appropriate action will be taken to deal with all prejudice related incidents or incidents which are a breach of this policy;
- responsibility for ensuring funding is in place to support this policy;

- responsibility for ensuring this policy and all linked policies are maintained and updated regularly;
- responsibility for ensuring all policies are made available to parents;
- the responsibility of involving the School Council in:
- determining this policy with the Governing Body;
- discussing improvements to this policy during the school year;
- organising surveys to gauge the thoughts of all pupils;
- reviewing the effectiveness of this policy with the Governing Body
- nominated a link governor to:
 - visit the school regularly;
 - work closely with the Co-Headteachers and the coordinator;
 - ensure this policy and other linked policies are up to date;
 - ensure that everyone connected with the school is aware of this policy;
 - attend training related to this policy;
 - report to the Governing Body every term;
 - annually report to the Governing Body on the success and development of this policy.

Role of the Co-Headteachers

The Co-Headteachers will:

- work in conjunction with the Senior Leadership Team to ensure all school personnel, pupils and parents are aware of and comply with this policy;
- ensure teachers:
 - 'have good knowledge of the subject(s) and courses they teach;
 - have effective support for those teaching outside their main areas of expertise;
 - present subject matter clearly, promoting appropriate discussion about the subject matter they are teaching;
 - check learners' understanding systematically, identify misconceptions accurately and provide clear, direct feedback and in doing so, they respond and adapt their teaching as necessary, without unnecessarily elaborate or differentiated approaches;
 - design their teaching to help learners to remember in the long term the content they have been taught and to integrate new knowledge into larger concepts;
 - use assessment well in order to help learners embed and use knowledge fluently or to check understanding and inform teaching;
 - create an environment that allows the learner to focus on learning;
 - develop a rigorous approach to the teaching of reading in order to develop learners' confidence and enjoyment in reading;
 - use reading materials at the early stages of learning to read that are closely matched to learners' phonics knowledge'. (Amended from the 'Education Inspection Framework' (Ofsted 2019)
- work closely with the curriculum leader, subject leaders and the link governor;
- ensure compliance with the legal requirements of the National Curriculum;
- consider disapplying a pupil from all or part of the National Curriculum for a period of time if this will benefit the child;
- encourage parents to take an active role in curriculum development;
- provide leadership and vision in respect of equality;
- provide guidance, support and training to all staff;
- monitor the effectiveness of this policy by;

- observing teaching and learning
- planning scrutinies and work trawls
- discussions with pupils and members of the school council
- annually report to the Governing Body on the success and development of this policy

Role of the Subject Leader

The Subject Leader will:

lead the development of this policy throughout the school;

- work closely with the Co-Headteachers, the nominated governor and SENCO;
- promote the teaching of numeracy and literacy within all subjects;
- be accountable for standards in this subject area;
- monitor standards by:
 - auditing the subject area
 - review of the scheme of work
 - monitoring teachers planning
 - lesson observations
 - scrutinising children's work
 - discussions with pupils

work in conjunction with the Headteacher, Senior Leadership Team Leader, teaching and support personnel to provide statements on each of the following:

We		Evidence
Intent	have constructed a 'curriculum that is ambitious and designed to give all learners the knowledge and cultural capital they need to succeed in life' by:	
	provide a curriculum that is 'coherently planned and sequenced towards cumulatively sufficient knowledge and skills for future learning and employment' by:	
	have the 'same academic, technical or vocational ambitions for almost all learners and we have designed an ambitious curriculum to meet the needs of some learners with high levels of SEND' by:	
	ensure 'learners study the full curriculum 'specialising' only when necessary' by:	

Implementation	ensure 'teachers have good knowledge of the subject(s) and courses they teach' by;	
	provide 'effective support for those teaching outside their main areas of expertise' by:	
	ensure 'teachers present subject matter clearly, promoting appropriate discussion about the subject matter they are teaching' by:	
	ensure teachers 'check learners' understanding systematically, identify misconceptions accurately and provide clear, direct feedback' by:	
	ensure teachers 'respond and adapt their teaching as necessary, without unnecessarily elaborate of differentiated approaches by:	
	ensure 'over the course of study, teaching is designed to help learners to remember in the long term the content they have been and to integrate new knowledge into larger concepts' by:	
Impact	ensure assessment is used well in order to 'help learners embed and use knowledge fluently or to check understanding and inform teaching' by:	
	'understand the limitations of assessment and do not use it in a way that creates unnecessary burdens for staff or learners' by:	
	ensure 'teachers create an environment that allows the learner to focus on learning' by:	
	ensure ' the resources and materials that teachers select reflect the provider's ambitious intentions for the course of study and clearly support the intent of a coherently planned curriculum, sequenced towards cumulatively sufficient knowledge and skills for future learning and employment' by:	
	ensure 'learners are ready for the next stage of education, employment or training' by:	

(Quotes taken from the Education Inspection Framework (Ofsted 2019))

- ensure continuity and progression throughout the school;
- devise a subject improvement plan;
- provide guidance and support to all staff;
- provide training for all staff on induction and when the need arises regarding;
- attend appropriate and relevant INSET;
- keep up to date with new developments;
- undertake an annual audit and stock take of resources;
- purchase new resources when required and in preparation for the new academic year;
- manage the subject budget effectively;
- undertake risk assessments when required;
- review and monitor;
- annually report to the Governing Body on the success and development of this policy.

Role of Teachers

Teachers will:

- comply with all aspects of this policy;
- work closely with the subject leader to develop this policy;
- devise medium and short term planning;
- plan and deliver good to outstanding lessons;
- plan differentiated lessons which are interactive, engaging, of a good pace and have a three part structure;
- have high expectations for all children and will provide work that will extend them:
- assess, record and report on the development, progress and attainment of pupils;
- achieve high standards;
- celebrate the success of pupils in lessons
- implement the school's equalities policy and schemes;
- report and deal with all incidents of discrimination;
- attend appropriate training sessions on equality;
- report any concerns they have on any aspect of the school community.

Role of Pupils

Pupils will:

- be aware of and comply with this policy (in an age appropriate form);
- be encouraged to work in partnership with the school by making decisions and exercising choice in relation to their educational programme;
- listen carefully to all instructions given by the teacher;

- ask for further help if they do not understand;
- participate fully in all lessons;
- participate in discussions concerning progress and attainment;
- treat others, their work and equipment with respect;
- support the school Code of Conduct and guidance necessary to ensure the smooth running of the school;
- liaise with the school council;
- take part in questionnaires and surveys

Role of Parents/Carers

Parents/carers will:

- be aware of and comply with this policy as it applies to them;
- be encouraged to take an active role in the life of the school by attending:
 - parents and open evenings
 - parent-teacher consultations curriculum development workshops
- be encouraged to assist in school as volunteers;
- be encouraged to respond to curriculum information newsletters;
- be informed via termly newsletters of their child's topics;
- asked to provide suggestions and ideas for improving this subject;
- be asked to take part periodic surveys conducted by the school on curriculum development;
- be invited to make presentations to pupils on aspects of this subject area;
- encourage effort and achievement;
- encourage completion of homework and return it to school;
- provide the right conditions for homework to take place;
- expect their child to hand in homework on time;
- join the school in celebrating success of their child's learning.

LINKS TO OTHER POLICIES

- Academically More Able, Gifted and Talented Pupils
- Assessment
- Curriculum
- Curriculum Intent, Implementation and Impact
- Differentiation
- English as an Additional Language (EAL)
- Monitoring and Evaluation
- Self-Evaluation and School Improvement
- Special Educational Needs
- Teaching and Learning

Confirmation of policy:

Corpus Christi School

Subject Lead: Mrs. Gatherine Kerr

Link Governor: Mr J Wd

Date to be reviewed: September 2021

Whole School D&T Overview

Year 6	Class 13 and 14	African Masks or Prints (rotated each year)		Macbeth Dioramas			
Year 5	Class 11 and 12	Victorian Puppets using papier Mache		Egyptian Masks using modroc		Designing a flood- Proof Structure	
Year 4	Class 9 and 10	Roman Clay Pots		Scribble Bots with Working Circuits		Cooking	
Year 3	Class 7 and 8	Bridges		Make Do & Mend Hats		Summer Fruit Drinks	
Year 2	Class 5 and 6	Lanterns made from Card		Design a Moving Vehicle		Recycled Paper/Junk Modelling	
Year 1	Class 3 and 4	Moving Pictures Christmas Cards		Windmills		Fruit Salad	
Term		1A	18	2A	2B	3A	3B



Progression of Skills in Design and Technology

Strands	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Beyond primary expectations
Design, make, evaluate and improve	 Explain what they are making and which materials they are using. Design products that have a clear purpose and an intended user. Use pictures and words to convey what they want to make. Bake products, using a range of tools to cut, shape, join and finish. Say what they like and don't like about their product and explain why. Talk about how closely their finished product meets their design criteria. Begin to use software to represent 2D designs. 	hich materials they are using, rpose and an intended user. In at they want to make. In all they want to make, out their product and explain why, product meets their design criteria. D designs.	Investigate existing products, including drawing them to analyse and understand how they are made. Plan a sequence of actions to make a product. Develop more than one design. Develop prototypes. Generate designs with annotated sketches and computer-aided design (CAD) where appropriate. Refine work and techniques as work progresses, continually evaluating the product design. Hearing standard design. Lake about how closely their finished product meets their design criteria and meets the need of the user.	existing products, including drawing them to analyse and dow they are made. ence of actions to make a product. ore than one design. segins with annotated sketches and computer-aided design re appropriate. and techniques as work progresses, continually evaluating ct design. trians and weaknesses of their design ideas. how closely their finished product meets their design criteria him enser.	Undertake research to inform design process. This may include surveys and interviews. Use prototypes, cross-sectional diagrams, exploded diagrams and CAD software to represent designs. Consider the views of others when evaluating their own work. Ensure products have a high quality finish, using art skills where appropriate appropriate. Ustify their decisions about materials and methods of construction. Make suggestions on how their design/product could be improved.	process. This may include surveys rams, exploded diagrams and CAD valuating their own work. finish, using art skills where is and methods of construction.	Communicate ideas and designs skilfully and accurately in 2D and 3D, using a variety of techniques, including computing.
Cooking and nutrition	Understand where food comes from. Group familiar food products e.g. fruit and vegetables. Cur ingredients safely. Prepare simple dishes-safely and hygienically-without using a heat source.	Coup foods into the five groups in The Eatwell Plate. Cut, grate or peel ingredients safely. Prepare simple dishes-safely and hygein-cally-without using a heat source. Measure or weigh using cups or electronic scales.	Cut materials accurately and safely by selecting appropriate tools. Know that a healthy diet is made up from a variety of different food and drink, as depicted in The Eatwell Plate. Measure and weigh ingredients appropriately. Follow a recipe.	Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs). Measure ingredients using scales. Prepare ingredients hygienically and using the appropriate utensils by following a recipe.	Assemble or cook ingredients, controlling the temperature of the oven or hold if cooking. Measure accurately using different equipment. Create recipes, including ingredients, methods, cooking times and temperatures. Understand the importance of correct storage and handling of ingredients.	Combine ingredients appropriately e.g. beating or rubbing. Measure ingredients to the nearest gram and millilitre and calculate ratios of ingredients to scale up or down from a recipe. Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed. Create and refine recipes, including ingredients, methods, cooking times and temperatures.	Understand the importance of nutrition, a balanced diet and about the characteristics of a broad range of ingredients in choosing and preparing food.
Construction, mechanics and electronics	Mark out materials to be cut using a template. Attack wheels to chassis using an axie. With support cut strip wood/dowel using a hacksaw. Make whiches with construction kits which contain free running wheels.	Use a range of materials to create models with wheels and axises, g. tubes, dowel and cotton reels. Use materials to practise drilling, screwing, nailing and gluing to strengthen products.	Create series circuits. Strengthen frames using diagonal struts. Begin to use mechanical systems in their products e.g. gears, pulleys and levers.	Create series and parallel circuits. Investigate how to make structures more stable e.g by widening the base. Understand and use mechanical structures in their products e.g. gears, pulleys, levers and gears.	Control a model using an ICT control model. Use a glue gun with close supervision. Join materials using appropriate methods. Use a hand drill to drill tight and loose fit holes.	Create circuits that employ a number of components (such as LEDs, resistors and transistors). Cut wood accurately to Imm. Build frameworks using a range of materials e.g. wood, card and corrugated plastik. Use a cam to make an up and down mechanism.	Develop sophisticated practical skills and carry out diagnostic, repair and maintenance tasks in a range of contexts. Develop well-conceived and well-executed practical solutions. Increase skills, knowledge and competence in using materials,
Materials	Fold, tear and cut paper or card. Investigate strengthening sheet materials. Roll paper to create tubes. Pernonstrate a range of joining techniques such as gluing or taping. Measure and mark out lines.	Demonstrate a range of joining techniques such as gluing, tachniques such as gluing, taping or creating hinges. Cut materials safely using tools provided. Demonstrate a range of cutting and shaping techniques such as tearing, cutting, folding and cutling. Use simple pop-ups.	Measure and mark out accurately. Cut materials accurately and safely by selecting appropriate tools. Cut slots.	Measure and mark out to the nearest mm. Use and explore complex popups. Us slots and internal shapes. Create nets.	Cut materials with precision. Cut accurately and safely to a marked line. Join/combine materials with temporary, fixed or moving joints.	Cut materials with precision and refine the finish with appropriate tools (such as sanding wood). Show an understanding of the qualities of materials to choose appropriate tools to cut and shape.	machinery, technique and processes.
Take inspiration from design throughout history	 Explore objects and designs to identify likes and dislikes Explore how products have been created. 	fy likes and dislikes. eated.	Disassemble products to understand how they work. Improve on existing designs, giving reasons for choices. Identify some of the great designers in different areas of study to generate ideas from their designs.	how they work. assons for choices. In different areas of study to	 Use knowledge of inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking produ their own innovative designs. 	Jse knowledge of inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products to create their own innovative designs.	Analyse the work of others, including iconic designs to informal work. Understand developments in D and T and the responsibilities of designers, including environmental responsibilities.