

Crawshawbooth Primary School

Design and Technology Policy

September 2026

Mrs Rigby

Design and Technology Policy

School Mission Statement

Crawshawbooth School seeks to provide a happy and secure learning environment where a child's natural curiosity is provided with challenges, experiences and opportunities that will enable them to grow into caring, confident and informed citizens of the future.

Inclusion

At Crawshawbooth School, Design and Technology is taught inclusively to all children. We recognise and value the individual needs, abilities, interests, backgrounds and experiences of every child.

Learning opportunities are adapted where appropriate to ensure that all pupils, including those with special educational needs and/or disabilities, can access and participate fully in Design and Technology. We take account of individual physical, sensory, communication and learning needs while maintaining high expectations for all pupils.

Pupils are encouraged to work independently and collaboratively and to develop confidence in making decisions, solving problems and responding creatively to design challenges.

Rationale

Design and Technology is an inspiring, rigorous and practical subject that prepares children to participate confidently in an increasingly technological world.

At Crawshawbooth School, Design and Technology encourages children to become creative, resourceful and effective problem-solvers, both independently and as part of a team. Pupils identify needs and opportunities and respond by developing ideas and designing and making purposeful products for particular users.

Through Design and Technology, pupils combine practical skills with an understanding of materials, structures, mechanisms, electrical systems, food, nutrition and the wider impact of design.

Children learn to investigate existing products, generate and develop ideas, communicate their designs, select appropriate materials and tools, make and test products, and evaluate and refine their work.

Design and Technology also enables pupils to understand how design and technology have developed over time and how products and systems affect individuals, communities and the wider world.

Through cooking and nutrition, pupils develop important practical life skills and an understanding of healthy eating, food preparation, ingredients and where food comes from.

Design and Technology helps children to become confident, resourceful and informed designers, makers and consumers.

Aims

Our Design and Technology curriculum aims to enable all pupils to:

- develop the creative, technical and practical expertise needed to participate confidently in an increasingly technological world;
- develop imaginative and creative thinking and become effective problem-solvers;
- identify needs, opportunities and problems and develop appropriate solutions;
- design purposeful and functional products for particular users;
- investigate and evaluate a range of existing products;
- develop, model and communicate design ideas in a range of ways;
- use design criteria to guide their decision-making;
- select appropriate materials, components, ingredients, tools and equipment;
- develop practical skills and increasing accuracy when making;
- understand how materials, mechanisms, structures and systems work;
- build, strengthen and reinforce structures;
- develop knowledge and understanding of mechanical and electrical systems;
- use computing and digital technology to support designing, making and controlling products where appropriate;
- understand and apply the principles of nutrition and healthy eating;
- develop safe and hygienic practices when using tools, equipment and preparing food;
- test, evaluate and refine ideas and products;
- understand how design and technology has changed over time and its impact on people and the wider world;
- work collaboratively, listen to others and respect different ideas;
- develop enjoyment, confidence and satisfaction through designing and making.

These aims reflect the statutory National Curriculum for Design and Technology at Key Stages 1 and 2.

National Curriculum

Design and Technology is a foundation subject within the National Curriculum at Key Stages 1 and 2.

The National Curriculum requires pupils to engage in an **iterative process of designing and making** through a variety of creative and practical activities.

The curriculum is organised around four key areas:

Design

Pupils learn to:

- understand and identify the needs of users;
- develop design criteria;
- generate, develop and communicate ideas;
- use drawings, diagrams, templates, mock-ups, prototypes and digital tools where appropriate;
- make informed decisions about materials, components and processes.

Make

Pupils learn to:

- select and use appropriate tools and equipment;
- work safely and accurately;
- select appropriate materials and components according to their characteristics;
- develop and apply practical skills;
- use a range of joining, cutting, shaping, finishing and construction techniques;
- prepare and cook food using appropriate techniques.

Evaluate

Pupils learn to:

- investigate and evaluate existing products;
- analyse how products work and are used;
- evaluate their own ideas and products against design criteria;
- test and modify products;
- consider the views of users;
- understand the impact of design and technology on individuals and the wider world.

Technical Knowledge

Pupils progressively develop knowledge and understanding of:

- how to make structures stronger, stiffer and more stable;
- mechanical systems such as wheels, axles, levers, linkages, gears, pulleys and cams;
- electrical systems such as switches, bulbs, buzzers and motors;
- how computing can be used to program, monitor and control products;
- materials and their properties;
- food, nutrition and healthy eating.

The National Curriculum expects pupils to know, apply and understand the specified knowledge, skills and processes by the end of each key stage.

Teaching and Learning

At Crawshawbooth School, our principal aim is to develop pupils' **knowledge, skills and understanding in Design and Technology**.

Lessons provide opportunities for pupils to experience the complete design and make process:

Investigate → Design → Make → Test → Evaluate → Improve

Pupils are encouraged to understand that designing and making is an iterative process. Ideas may change as pupils test materials, identify problems, receive feedback and consider the needs of the intended user.

Teachers provide opportunities for pupils to:

- investigate existing products;
- identify problems and opportunities;
- consider the needs of users;
- establish design criteria;
- generate and develop ideas;
- communicate ideas through drawings, diagrams, models and prototypes;
- select appropriate materials and tools;
- develop practical skills;
- make and construct products;
- test and modify designs;
- evaluate products against design criteria;
- explain and justify their design decisions;
- work collaboratively and independently.

Teachers explicitly model practical skills and demonstrate the safe and appropriate use of tools, materials and equipment.

Pupils are encouraged to develop resourcefulness and resilience when solving design and making problems. Mistakes and unsuccessful prototypes are treated as valuable opportunities to test, modify and improve ideas.

Design Recording and Sketchbooks

Pupils record and communicate their design thinking through appropriate forms of recording.

Depending on the project and age of the pupils, this may include:

- annotated drawings;
- design criteria;
- labelled diagrams;
- sketches;
- exploded diagrams;
- measurements;
- plans and lists of materials;
- prototypes and models;
- photographs;
- evaluations;
- testing results;
- written reflections.

Where appropriate, Design and Technology work may be recorded in sketchbooks or project books.

The purpose of recording is to support pupils in developing, communicating and refining their ideas rather than simply producing a final design.

Pupils are encouraged to explain the reasons for their design choices and to use appropriate Design and Technology vocabulary.

Progression and Curriculum Planning

Our Design and Technology curriculum is carefully planned and sequenced so that pupils progressively develop their knowledge, practical skills and understanding throughout their time at Crawshawbooth School.

Long-term, medium-term and short-term planning work together to provide a broad, balanced and progressive curriculum.

Our long-term curriculum maps the Design and Technology units covered across the key stages and ensures that pupils encounter a range of materials, techniques, contexts and technical knowledge.

Medium-term planning identifies:

- the design challenge;
- the intended user;
- design criteria;
- key knowledge;
- technical vocabulary;
- practical skills;
- materials and equipment;
- opportunities for testing and evaluation;
- the intended product or outcome.

Short-term planning identifies the specific learning intention, knowledge, vocabulary, practical activities, resources and assessment opportunities for each lesson.

Planning ensures that pupils build on prior learning and become increasingly confident, skilled and independent as they progress through the school.

The curriculum provides opportunities to revisit and develop:

- designing and communicating ideas;
- measuring and accuracy;
- cutting and shaping;
- joining and assembling;
- finishing;
- structures;
- mechanisms;
- electrical systems;
- textiles;
- food preparation and nutrition;
- use of tools and equipment;
- testing and evaluation.

Pupils encounter increasing levels of challenge as they progress through the school, with increasing expectations for independence, accuracy, technical knowledge and the refinement of products.

Key Stage 1

At Key Stage 1, pupils develop the foundations of Design and Technology through purposeful practical experiences.

Pupils have opportunities to:

- design products for themselves and other users;
 - develop simple design criteria;
 - generate and communicate ideas through drawing, modelling, discussion and practical exploration;
 - select and use a range of tools and equipment safely;
 - select appropriate materials and components;
 - develop cutting, shaping, joining and finishing skills;
 - build and explore structures;
 - investigate simple mechanisms such as levers, sliders, wheels and axles;
 - explore textiles and different joining techniques;
 - prepare simple food using basic principles of healthy eating;
 - evaluate their ideas and products against simple design criteria.
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Key Stage 2

At Key Stage 2, pupils build on their previous knowledge and develop greater technical understanding, accuracy and independence.

Pupils have opportunities to:

- research and investigate existing products;
 - develop design criteria based on users and purposes;
 - generate and develop ideas through drawings, diagrams, models and prototypes;
 - select appropriate materials, components and tools;
 - measure and work with increasing accuracy;
 - develop more complex making and joining techniques;
 - strengthen, stiffen and reinforce structures;
 - investigate and use mechanical systems including gears, pulleys, cams, levers and linkages;
 - investigate and use electrical systems including switches, bulbs, buzzers and motors;
 - apply computing to program, monitor and control products where appropriate;
 - use textiles and a range of materials creatively and purposefully;
 - prepare and cook a variety of predominantly savoury dishes;
 - understand seasonality and where ingredients come from;
 - test, evaluate and refine products;
 - explain and justify design decisions using appropriate technical vocabulary.
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Cooking and Nutrition

Cooking and nutrition is an important part of the Design and Technology curriculum.

Pupils develop practical cooking skills alongside knowledge of nutrition, healthy eating, ingredients and food provenance.

At Key Stage 1, pupils learn to:

- use the basic principles of a healthy and varied diet;
- prepare simple dishes;
- understand where food comes from;
- use appropriate utensils safely;
- develop basic food preparation skills.

At Key Stage 2, pupils learn to:

- understand and apply the principles of a healthy and varied diet;
- prepare and cook a variety of predominantly savoury dishes;
- develop a range of cooking techniques;
- understand seasonality;
- understand where and how ingredients are grown, reared, caught and processed;
- develop increasing independence when preparing food.

Food safety, hygiene and safe working practices are explicitly taught throughout the curriculum.

These requirements reflect the statutory National Curriculum for Design and Technology.

Foundation Stage

In Reception, children follow the Early Years Foundation Stage curriculum.

Experiences within **Expressive Arts and Design** and **Understanding the World**, alongside physical development and communication, provide foundations for later Design and Technology learning.

Children have opportunities to:

- investigate how things work;
- explore construction materials;
- use construction kits;
- build and make models;
- join and assemble materials;

- use appropriate tools safely;
- explore and manipulate materials;
- develop fine motor control;
- solve simple practical problems;
- talk about their ideas and creations;
- explore and evaluate what they have made.

Children are provided with opportunities to explore, investigate, build, make and solve problems both indoors and outdoors.

These experiences develop curiosity, creativity, problem-solving and practical skills that provide a foundation for later Design and Technology.

Adaptation and Inclusion

Design and Technology is taught to all pupils, whatever their ability or individual needs.

Teachers provide appropriate adaptations and support so that pupils can access the curriculum while maintaining high expectations.

Adaptations may include:

- visual examples and demonstrations;
- step-by-step instructions;
- simplified or scaffolded design criteria;
- adapted tools and equipment;
- pre-cut or partially prepared materials where appropriate;
- additional adult support;
- alternative materials;
- opportunities to rehearse practical techniques;
- additional time;
- opportunities to work with a partner or small group;
- adapted recording requirements.

Open-ended design challenges allow pupils to approach a problem in different ways and produce a variety of outcomes.

Pupils are encouraged to develop independence and make their own design decisions wherever possible.

English

Design and Technology provides valuable opportunities for pupils to develop speaking, listening, reading and writing skills.

Pupils discuss design problems, explain their ideas, justify decisions and evaluate products.

They develop their ability to use technical vocabulary accurately and communicate ideas clearly through drawings, annotations and written evaluations.

Discussion and evaluation encourage pupils to listen to different viewpoints and explain their own decisions.

Mathematics

Design and Technology provides opportunities for pupils to apply mathematical knowledge in meaningful practical contexts.

Pupils develop skills including:

- measuring;
- estimating;
- calculating;
- working with shape and space;
- understanding scale;
- reading measurements and scales;
- using fractions and proportions;
- comparing quantities;
- applying accuracy to practical tasks.

Mathematical skills are used purposefully when designing and making products.

Science

Design and Technology provides opportunities for pupils to apply scientific knowledge to the designed and made world.

Pupils may use their understanding of:

- materials and their properties;
- forces;
- electricity;
- sound;

- light;
- living things;
- changes of state;
- nutrition.

Science and Design and Technology are linked where the connection strengthens pupils' understanding of both subjects.

Computing

Digital technology is used to support Design and Technology where appropriate.

Pupils may use computing to:

- develop and communicate design ideas;
- create digital designs;
- research existing products;
- record and present their work;
- control mechanisms;
- program products;
- monitor systems;
- explore computer-aided design and digital making where appropriate.

This supports the National Curriculum requirement for pupils to apply their understanding of computing to program, monitor and control products at Key Stage 2.

Personal, Social and Emotional Development

Design and Technology contributes to pupils' personal development by encouraging:

- creativity;
- resilience;
- independence;
- problem-solving;
- perseverance;
- responsibility;
- collaboration;
- confidence.

Pupils learn that designing and making often involves testing ideas, identifying problems and making improvements.

Collaborative projects encourage pupils to listen to others, share responsibilities and respect different ideas.

Spiritual, Moral, Social and Cultural Development

Design and Technology provides opportunities for pupils to consider how design affects individuals, communities and the wider world.

Pupils explore how products have developed over time and how different cultures, communities and individuals have responded to their needs through design and technology.

Pupils consider issues such as:

- sustainability;
- responsible use of resources;
- environmental impact;
- healthy lifestyles;
- accessibility;
- the needs of different users;
- the impact of technology on everyday life.

Through collaborative designing and making, pupils develop respect for the ideas, skills and contributions of others.

Sustainability and the Environment

Pupils are encouraged to consider the environmental impact of design choices.

Where appropriate, pupils explore:

- reducing waste;
- reusing and recycling materials;
- selecting appropriate materials;
- responsible use of resources;
- sustainable design;
- the impact of products throughout their lifespan.

The school encourages pupils to be resourceful and to consider how existing or recycled materials can be used creatively and effectively.

Assessment

Assessment in Design and Technology is primarily formative and takes place throughout lessons and units.

Teachers assess pupils through:

- observation;
- questioning and discussion;
- design work;
- practical work;
- prototypes and models;
- testing;
- finished products;
- evaluations;
- pupils' ability to explain and justify design decisions.

Assessment considers pupils' developing:

- knowledge and understanding of Design and Technology;
- technical vocabulary;
- ability to investigate existing products;
- ability to identify users and needs;
- ability to develop and communicate ideas;
- ability to select appropriate materials and tools;
- practical making skills;
- technical knowledge;
- ability to test and evaluate;
- ability to refine and improve products;
- knowledge of cooking, nutrition and food safety.

Teachers use assessment to identify strengths, misconceptions and areas for development and to inform future teaching and planning.

Assessment focuses on pupils' developing knowledge, skills and understanding rather than unnecessary data collection.

Evidence from design work, practical outcomes, testing and evaluations is used to demonstrate progression over time.

Health and Safety

Health and safety is an integral part of Design and Technology.

Pupils are taught to use tools, equipment and materials safely and responsibly.

Teachers provide clear demonstrations and instructions before pupils use unfamiliar tools or equipment.

Pupils are taught to:

- select and use tools appropriately;
- follow safety instructions;
- use equipment responsibly;
- keep work areas organised;
- wear appropriate protective equipment where necessary;
- respect materials and equipment;
- clean and store equipment appropriately.

When cooking, pupils are taught appropriate food hygiene and safety procedures, including handwashing, safe food preparation, appropriate use of equipment and awareness of potential hazards and allergies.

Risk assessments are completed where appropriate when using specialist equipment, unfamiliar materials or practical processes.

Resources

The school provides a range of resources to support the teaching of Design and Technology.

Resources may include:

- construction materials;
- wood and card;
- paper and recycled materials;
- textiles and fibres;
- joining materials;
- mechanical components;
- electrical components;
- food and cooking equipment;
- measuring equipment;
- modelling materials;
- specialist tools;
- digital technology.

Specialist equipment and resources are stored appropriately and are used by pupils under suitable adult supervision.

The school encourages pupils to be resourceful and to make responsible choices about the use and reuse of materials.

Monitoring and Evaluation

The monitoring of the quality and standards of Design and Technology is the responsibility of the Design and Technology subject leader, supported by the senior leadership team.

Monitoring may include:

- reviewing curriculum planning;
- talking to pupils about their learning;
- reviewing design work and finished products;
- looking at evidence of progression across year groups;
- observing lessons where appropriate;
- monitoring the range of materials, techniques and technical knowledge covered;
- reviewing pupils' practical skills and understanding;
- evaluating the impact of curriculum developments;
- supporting colleagues with subject knowledge and resources;
- identifying professional development needs.

The Design and Technology subject leader maintains an overview of strengths and areas for development within the subject and provides strategic direction for future development.

The subject leader works collaboratively with colleagues to ensure that the curriculum is delivered consistently and that pupils build on previous learning.

Findings from monitoring are shared with the Headteacher and Governors as appropriate as part of the school's wider curriculum monitoring and self-evaluation processes.

The Design and Technology curriculum is reviewed regularly to ensure that it remains ambitious, inclusive, appropriately sequenced and responsive to the needs of pupils.

Links to Other Policies

This policy should be read alongside relevant school policies, including:

- English Policy
- Mathematics Policy
- Science Policy
- Computing Policy
- PSHE Policy
- SEND/Inclusion Policy

- Equalities Policy
- Health and Safety Policy
- Food Hygiene and Safety procedures

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