

Willerby Carr Lane

Primary School



Design and Technology Policy

POLICY MANAGEMENT

Approved by	Full Governing Body
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Purpose

Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

Aims

At Willerby Carr Lane Primary School, we aim to provide quality teaching and learning of design and technology to ensure that all pupils:

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
- build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- critique, evaluate and test their ideas and products and the work of others
- understand and apply the principles of nutrition and learn how to cook.

Making Design and technology Relevant

At Willerby Carr Lane Primary School, we ensure that pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values.

Making use of our Locality and Wider Links

At Willerby Carr Lane Primary School, we aim to provide strong foundations for children's development of design and technology knowledge, skills and understanding. We aim to make best use of our own facilities and those nearby. These include:

- A dedicated Art and Design and Technology block with a full range of tools, materials and resources

Curriculum Intent

Our school curriculum sets out the knowledge and skills that pupils will gain at each stage. It is clear what end points the curriculum is building towards and what children need to know and be able to do to reach those end points. This is set out in detail in a series of design and technology 'knowledge organisers'. The knowledge organisers detail:

- What children should already know before starting a unit of work

- What children will know by the end of the unit
- Key design and technology skills
- The associated key vocabulary children are expected to learn and understand
- Knowledge about famous inventors and designers (of both genders)
- Key design decisions

Our curriculum has been developed through extensive subject development working-group meetings involving discussion by members of the teaching staff from all year groups, from EYFS to Year 6. It is rooted in a solid consensus of the school's teaching staff. This in-depth process ensures that it is coherently planned, sequenced and implemented so that new knowledge and skills build on what has already been taught.

Curriculum Implementation

Through high quality design and technology teaching, pupils:

- fully understand how to use creativity and imagination to design and make high quality prototypes and products that solve real and relevant problems within a variety of contexts.
- consider their own and others' needs, wants and values
- take risks, are resourceful, innovative and enterprising
- are capable and confident with the range of materials and tools to be used.
- are critical, evaluate and test their ideas and products and the work of others to achieve the best possible results
- understand and apply the principles of nutrition and can cook

Lesson design is consistent across the school.

- Each unit should be taught in a manner which is immediately understandable to the pupils.
- On starting a unit there should be a reminder of the lessons learned in previous units and particularly those with similar materials.
- Children should experience working alone at times within the unit as well as part of a team.
- Unit plans should always be taught with the following structure:
 - Analysis of what products already exist, their construction and constituent materials/ ingredients.
 - Teaching of the skills required to enable the children to be able to have success in their design and construction/assembly processes.
 - High expectation in the design stage and critical questioning of plans.
 - Children do not move forward to the building/creation/making stage until they have mastered the skills required to complete the task and have a plan which has passed the critical questioning stage. This will include all health and safety procedures.
 - Products are mutually evaluated by the creators, their peers and teachers.
- Projects should involve the three types of D&T activity
 - investigate, disassembly and evaluative activity
 - focused practical task/s to develop technical knowledge
 - design and make assignment
- Note: disassembly does not necessarily mean taking the toaster apart! It can be an evaluation of a product without its destruction. Similarly it could involve making a working model in Technical Lego to establish how it works and how linkages are made.

- Pupils are expected to verbalise their reasoning and understanding with open ended questions at regular intervals. Pupils should expect to be challenged by critical questions.

Design and technology in the Foundation Stage

During the Early Years Foundation Stage, the essential building blocks of children's design and technology capability are established. There are many opportunities for carrying out D&T-related activities in all areas of learning in the EYFS. Specifically, 'Designing and Making' is identified as a strand within Understanding of the World. By the end of the EYFS, most children should be able to:

- Construct with a purpose in mind, using a variety of resources
- Use simple tools and techniques competently and appropriately
- Build and construct with a wide range of objects, selecting appropriate resources and adapting their work when necessary
- Select the tools and techniques they need to shape, assemble and join materials they are using

D&T related activities in the EYFS should be appropriate to the developmental stage of the children. Activities should look quite different from those carried out in KS1. Effective practice in the EYFS has the following characteristics:

- Designing does not necessarily entail drawing
- Designing can mean using hand gestures, arranging and re-arranging materials and components, talking and listening
- Sometimes practical skills are taught directly
- Children have frequent opportunities to develop practical skills with a range of materials
- Children have frequent opportunities to explore construction kits
- Children have opportunities to explore existing products e.g. technological toys
- Activities are appropriate to children's prior experience
- Context is sometimes set by teacher, sometimes by the children

Cross Curricular Opportunities

The content and positioning of design and technology units is designed to develop a coherent and progressive design and technology curriculum which supports quality teaching and learning. Links are only made with other subjects where they can meaningfully and significantly contribute to the teaching of those areas. Design and Technology time is not misused in order to make models for other subjects or to make replicas of existing products. Possible opportunities include:

- Computing - children use ICT to provide computer control for products e.g. controllable vehicles
- Music – designing and making a musical instrument

Assessment, Recording and Reporting

Assessment is carried out in line with the school's Assessment Policy and is based on the principles of Assessment for Learning. Assessment can take place at all appropriate stages of a lesson, but particularly within the plenary focussing on the relevant learning objectives to that lesson.

We assess how well pupils embed concepts in their long-term memory and apply them fluently; developing their understanding, rather than memorising disconnected facts. Teachers assess how well children are able to answer the key questions which are set out in our knowledge organisers: the depth of their answers and clarity of their explanations. For each unit pupils are assessed to have met the expected targets, exceeded them or not met them.

Health and Safety

Lessons must be safe

- Children must never use a tool until they have been taught how to use it and proved that they can use it properly.
- Children should appreciate the properties of the materials they are handling and any dangers associated with them.

Food

- Teachers must ascertain if there are any children with food allergies before introducing ingredients. Advice on food allergies is available from the School Business Manager.
- Particular care should be taken when handling food.
- Every lesson should start with a review of do's and don'ts with food. All children must wash their hands. This should be witnessed if there is any doubt.
- All equipment should be washed before and after use.
- Equipment specifically purchased for food technology must not be used for other purposes
- Any child seen to put their fingers in their mouths (or any other unclean place) must wash them immediately.
- All other equipment and clothing must be moved away from the work surface.
- Children should do everything for themselves (with support near an oven). This includes weighing, measuring, mixing and cutting. Use of knives however must be closely supervised by an adult.
- All surfaces must be cleaned thoroughly using cloths only used for this purpose.
- Ingredients must be stored appropriately and checked to be within date
- Baking should be consumed on the day or sent home that night.
- The risk assessments for using ovens and hot plates must be followed

Equal Opportunities

It is the responsibility of teachers to ensure that all pupils, irrespective of gender, ability, race or SEND, have access to the curriculum and make the greatest progress possible. Teachers set suitable learning challenges and respond to each child's different needs.

Clearly there still exists in society an inequality in the involvement of girls and boys in technological areas. Even in primary schools this can easily become entrenched so that by the time the pupils enter secondary education, girls in particular do not see Design and Technology as being relevant to them. At this school every effort is maintained to demonstrate members of both sexes being involved in all technological activities. (e.g. men and women working with textiles and food, women and men working as engineers). In addition careful groupings of pupils must avoid situations where girls/boys become side-lined into only certain aspects of a design and make task.

Role of the Subject Leader

The design and technology subject leader is responsible for:

- Ensuring progression and continuity across the key stage through the development of the long-term plan.
- Supporting colleagues in the implementation of the short-term planning and providing support within each unit of work.
- Monitoring progress and standards within the subject.
- Keeping up to date with developments in design and technology and disseminating information to the rest of the teaching staff.