Design & Technology Policy

"Design and technology gives young people the skills and abilities to engage positively with the designed and made world and to harness the benefits of technology. They learn how products and systems are designed and manufactured, how to be innovative and to make creative use of a variety of resources including digital technologies, to improve the world around them."
-Design and Technology Association

Design and Technology is an inspiring, rigorous and practical subject. It gives pupils the skills, concepts and knowledge necessary for them to bring about change and to shape the environment. It provides children with opportunities to think through problems creatively by designing and making products for a specific user and purpose. As stated by the National Curriculum: "High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation." "Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens."

AIMS:
🖉 To enable pupils to design and make products for a specific user and purpose.
🖉 To provide children with opportunities to explore a range of tools, media and materials.
🖉 To improve children's ability to use a range of tools and techniques.
🖉 To inspire children and develop their knowledge and understanding by exploring existing products.
🖉 To incorporate design and technology to extend and enrich other curriculum areas.
🖉 To enable children to experience a broad and balanced range of design and technology activities and show progression within these areas.
🖉 To foster children's understanding, enjoyment and appreciation of design and technology.

ROLES AND RESPONSIBILITIES OF THE SUBJECT LEADER

➢ Keep up to date with all new information regarding Design and Technology.
➢ Disseminate up to date information to staff, organising training sessions as and when necessary.
➢ Attend appropriate courses in relation to the Design and Technology curriculum and make other staff aware of suitable training.
➢ Have a clear understanding and knowledge of the subject and implications for teaching and learning.
➢ Ensure all children have appropriate access to curriculum provision through differentiated exciting activities involving a range of media.
➢ Liaise with the EYFS Leaders and ensure there is progression and continuity throughout the 'whole' school.
➢ Monitor resources and order appropriate replacements and new equipment.
➢ Devise an action plan to show future developments and review progress.
➢ Manage the process for monitoring and evaluation, including a selection from the following:
- Classroom observation to monitor subject delivery, children's progress and achievement
- Work and planning scrutiny
- Discussions with children including appropriate questions to assess their attainment.
- Discussions with teaching staff.

These drivers are based on the needs of our children and are embedded into every topic and curriculum area. Teachers make provision for our drivers through planning to ensure they are developed coherently throughout the school.

Creativity: Through our Design and Technology curriculum children are encouraged to think creatively to solve problems by applying their skills in a variety of different ways. They learn how to adapt their ideas and use a variety of materials and tools with increasing accuracy.

Communication: Children become 'Designers' working individually and collaboratively; experimenting, inventing and creating their own products. Children communicate their ideas and designs in different ways e.g. through discussion, drawing, ICT etc. They are also taught specific vocabulary to enable them to reason and explain their understanding within design and technology.

Celebrating difference: Children explore existing products from a range of designers. They respectfully appreciate diversity and express their preferences within Design and Technology. They create products based on success criteria for a variety of users with different needs and requirements.

Kindness to ourselves and others: Children showcase their own work and view that of others. They respectfully give feedback to each other and occasionally collaborate on projects. Children learn how to keep themselves and each other safe. They learn how to use tools with increasing control and how to work hygienically.

LONG TERM MEMORY

At Westdale we believe that nothing has been learnt until it is in your long-term memory. We develop children's long-term memory acquisition in Design and Technology lessons by enabling pupils to revisit previous skills and build upon their knowledge and understanding through a variety of different teaching techniques. Sticky knowledge is planned for each topic and key elements of this will be revisited to ensure that they build up a useful knowledge base. Key questions are used to lead topics and engage active learning and challenge. Sequences of lessons are planned using progression mapping within and across year groups from EYFS through to year 2 ensuring progression for all. This is all collated onto our topic trails.

Pupils use creativity and imagination; they design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values.

TEACHING AND LEARNING

Children are introduced to exciting and engaging topics where they can design and make creative products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They are provided with opportunities to explore a variety of tools and techniques to produce a range of products. Sequences of lessons are planned for using progression mapping within and across year groups to ensure that each child develops their skills in structures,

cooking and nutrition mechanisms and textiles. Children take inspiration from and investigate a range of existing products. Our Design and Technology coverage equips children with sticky knowledge, key skills and understanding in this area. We ensure that the act of investigating and making something includes exploring and developing ideas, and evaluating and developing work. We do this through a mixture of whole-class teaching and individual/group activities. Teachers draw attention to good examples of individual performance as models for the other pupils. Pupils are encouraged to evaluate their own ideas and methods and the work of others and say what they think and feel about them. We give pupils opportunities to work on their own and collaborate with others, on products in two and three dimensions and on different scales. Pupils also have the opportunity to use a wide range of materials and resources, including IT. Key Vocabulary on our progression overview for each year group, helps our children to broaden their subject specific terminology giving them the confidence to articulate their opinions and explain their thinking about design and technology.

RESOURCES

Resources at school are carefully selected and thoughtfully introduced in order to enrich the children's understanding, knowledge and skills in Design and Technology. All classrooms have a range of basic resources, but we keep more specialised equipment in a central cupboard. Specialist materials and equipment are ordered as and when required by the class teachers, due to lack of storage space. Wherever possible children will be given opportunities to visit local museums, shops and meet with designers, engineers, chefs or architects whenever this will enhance teaching and learning.

HEALTH AND SAFETY:

Health and Safety consideration and risk assessments remain the primary responsibility of the teacher in charge, the children should be taught to:

- Reduce risks through responsible behaviour and use good practise.
- Abide by simple safety rules when using tools and equipment.
- Recognise hazards in their proposed ways of working, and take actions to minimise them
- Store tools and materials with due regard, and organise their working environment/practises in a safe way.

Food- hygiene and safety
Members of staff will ensure all equipment is clean and in working order. Adults and children will ensure the area and themselves are clean and prepared before working with food. Prior to food activities, children who are not permitted to taste or handle food products or ingredients will be identified.

AREAS OF CONCERN:

- Glue guns will only be used by adults when there is no other appropriate joining technique.
- Food technology lessons require that hygiene is given the utmost priority. Activities involving the use of cookers, ovens and microwaves require a high level of supervision with appropriate clothing being available.
- Fabric work that involves scissors, sharp cutting tools, pins and needles requires careful resource management. Children should be taught simple storage strategies for dealing with sharp objects that are not in use.

- Construction kits may pose some small risk and children should be warned of the dangers of placing small pieces in their mouths.
- Safe practise for handing soft mouldable materials should also be taught to minimise small pieces being inappropriately used.
- Contact with foodstuff and other materials likely to cause allergic reactions should be avoided.

FOUNDATION STAGE:

At Westdale we liaise with the Foundation Leaders to ensure good provision and smooth progression between year groups. The Foundation stage encourages the development of skills, knowledge and understanding that forms the foundations for Design and Technology in Key Stage 1. Early learning in Design and Technology will be taught through 'Expressive Art and Design' and it will also be fostered through the 'Characteristics of Effective Learning'. These early experiences include providing opportunities for children to investigate, talk and ask questions about products, to explore a variety of construction kits, to develop skills using appropriate tools and materials safely, and to extend their vocabulary through talking and explaining their design process and end products.

PLANNING/ CURRICULUM

Intent: It is our intention that our Design Technology curriculum ensures that the National Curriculum requirements are not only met, but children receive a broad and rich learning experience. As stated in the National Curriculum, Design Technology is an inspiring, practical and rigorous subject where pupils learn to take risks and become resourceful, innovative, enterprising and capable citizens. It is our vision to equip our pupils with key skills, knowledge, understanding and vocabulary to enable them to explore, design and make high quality purposeful products within a variety of contexts. We aim to meet children's needs and interests through creative and motivating projects across our topics. Our curriculum drivers are Communication, Creativity, Celebrating Difference and Kindness to Others and Ourselves, these are planned for throughout the curriculum.

We aim to provide our pupils with a rich and broad cultural capital. It is our aim for children to build upon skills and knowledge gained from foundation stage through to year 2 via termly Design Technology projects. We are careful to ensure that the statutory entitlement is met through careful planning across the year.

We will plan the contents of the Design Technology curriculum and resource accordingly to meet the needs of all children providing pupils with the skills and knowledge to fulfil their potential.

We aim to enrich the children's learning by offering them first hand experiences. We make design technology learning explicit so the children are aware when they are being designers, using the associated vocabulary and skills.

Implement: At Westdale we believe that nothing has been learnt until it is in your long term memory. We provide children with Design Technology lessons that enable pupils to revisit previous skills and build upon their knowledge and understanding. Sticky knowledge is planned for each topic and key elements of this will be revisited to ensure that they build up a useful knowledge base. Key questions are used to lead topics and engage active learning and challenge. Sequences of lessons are planned using progression

mapping within and across year groups from EYFS through to year 2 ensuring progression for all. This is all collated onto our topic trails.

Impact: The impact of our Design Technology offer is measured through our monitoring cycle. This includes learning walks, pupil voice, planning scrutiny, curriculum reviews and end of year assessments. Once reviewed the DT Lead formulates an action plan for improvement, discussed with the curriculum leader.

We assess and track Design Technology against key knowledge and skills in each year group, ensuring children maintain a good knowledge, skills and understanding. In assessment we are looking for children who demonstrate a sound grasp of the key knowledge and skills throughout the year, such as

- The ability to articulate and explain what Design & Technology is.
- The ability to demonstrate significant levels of originality and willingness to take creative risks to produce innovative ideas and prototypes.
- An excellent attitude to learning and independent working.
- The ability to use time effectively and work constructively and productively with others.
- The ability to carry out research, show initiative and ask questions to develop an exceptionally detailed knowledge of user's needs.
- The ability to act as responsible designers and makers, working ethically, using finite materials carefully and working safely.
- A thorough knowledge of which tools, equipment and materials to use to make their products.
- The ability to apply knowledge in Maths and English.
- The ability to manage risks exceptionally well to manufacture products safely and hygienically.
- A passion for the subject and knowledge of, up-to-date technological innovations in materials, products and systems.

INCLUSION/ EQUAL OPPORTUNITIES

As an inclusive school we provide suitable learning opportunities to ensure **ALL** children have access to the Design and Technology curriculum. Teachers provide learning opportunities that challenge gifted and talented children and match the needs of pupils with special educational needs. If children need adaptions to the curriculum we will make all reasonable adjustments. Support is offered as appropriate, this may be done through:

- setting common tasks that are open-ended and can have a variety of responses;
- using additional adults to support the work of individual pupils or small groups;
- grouping children to enable peer support;
- providing appropriate tools and materials;
- adapting the activity accordingly to ensure work is set at the appropriate level.

Teachers will ensure that children will be appropriately challenged within Design Technology, this may be through more open-ended design briefs, prompts to test and adapt their products, independent research, or additional responsibilities such as leading a team.

<u>ASSESSMENT AND RECORDING</u>:

Children's progression of knowledge, understanding and skills in Design and Technology is continuously monitored and assessed through direct observation, discussion, questioning and evaluation of finished products. Evidence could be annotated sketches, mock-ups, plans, drawings, photographs etc. It could also be individual, group or class projects. Children are encouraged to make personal assessments of their own work through evaluating activities and identifying what they need to do to improve.
Teachers reflect on the progress made by pupils against the learning objectives for their lessons. At different points during the year we make a judgement against the National Curriculum levels of attainment. The teacher records the level that each child has reached, and then uses this information to plan future work for each child.
The subject leader will monitor work and progression throughout school during each term and the results will be fed back to staff.

<u>CROSS CURRICULAR LEARNING</u>

Design and Technology provides a natural opportunity for children to practise and improve skills across the curriculum. Teachers will make meaningful links wherever appropriate to help enhance children's learning.

English: Design and Technology contributes to the teaching of English in our school by encouraging pupils to ask and answer questions about their own and existing products. They have the opportunity to compare ideas, methods and approaches in their own work, designers, and that of other pupils, and to say what they think and feel about them. As it becomes age appropriate, the children may be encouraged the annotate their designs as they develop.

Maths: Design and Technology contributes to the teaching of Mathematics in our school by giving opportunities to develop the pupil's understanding of shape and space through work in two and three dimensions. Careful measuring, scoring and use of symmetry gives DT a cross-curricular link.

ICT: We use ICT to support design and technology when appropriate. Pupils may use software to enhance skills in designing. They may present their work through photography and labelling. Older pupils may collect visual information to help them develop their ideas by using digital cameras to record their observations. They also may use the internet to find out more about famous products and designers.

PSHE: The teaching of design and technology offers opportunities to support the social development of our pupils through the way we expect them to work with each other in lessons. Groupings allow pupils to work together and give them the chance to discuss their ideas and feelings about their own work and the work of others. They collaborate and co-operate across a range of activities and experiences. The pupils learn to respect and work with each other and with adults, thus developing a better understanding of themselves. Children develop key competencies such as problem-solving, teamwork, negotiation, consumer awareness and organisation.

History/R.E: 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. They also develop an understanding of different times, cultures and religions through their work on famous designers and products.

Science/ Geography: Children observe, investigate and respond to and record the world around them through a growing variety of forms and media. They investigate different materials and reflect on how effectively they meet the requirements