



Design & Technology at St Andrew's CE (VA) Infant School

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Timetable

At St Andrew's Infant School, the children are taught Design Technology as part of their half termly topic work in exciting units such as 'The Enchanted Woodland', 'Bright Lights, Big City', 'Land Ahoy' and 'Wriggle and Crawl'. It is mainly taught in weekly lessons but in some topics, we combine our Design Technology lessons into full afternoon sessions. This allows for a more consistent approach and helps to achieve more in-depth learning with complex tasks.

Content of lessons

We follow a skills-based curriculum where children are able to build upon and improve their previous skills. As a school, alongside Development Matters and the National Curriculum, we follow the Cornerstones curriculum to ensure a well-structured and purposeful approach to this subject. During the learning journey, we focus on teaching a key skill and then give an opportunity to develop that skill. Children complete a process of Design, Make and Evaluate and use design sheets across the school. Most topics start with students looking at products that are already available in order to create design criteria that will be used to evaluate against. Photographs and observations of the children's work are used to evidence their learning and thinking.

Students are introduced to the work of engineers, both old masters and contemporary, in order to give inspiration and show examples of different techniques. For example, in 'Land Ahoy' the children look at different designs of boats and ships and in Year 1 the children explore a range of designers who build rockets and moon buggies in our 'Moon Zoom' topic.

Planning

We use the Development Matters, the National Curriculum, Rainbow Continuum and Cornerstone curriculum to aid with planning.

Marking:

In line with the school marking and feedback policy, children's Design Technology work will be acknowledged with a tick and any comments made must relate to the WALT/learning objective.

Verbal feedback will be given throughout the lesson. Children are to be given advice on how to improve. Wherever possible, examples will be shown to give children ideas and inspiration.

Children will begin to self-evaluate their work and offer critique to others on how they can improve.

Assessment:

Each student will be assessed using the progression of skills document for the relevant year group and alongside the Development Matters in the Early Years.

Lesson Resources

Suggested websites:

The Design Technology Association <https://www.data.org.uk/for-education/primary/>

STEM Learning <https://www.stem.org.uk/resources/curated-collections/primary-0>

BBC Bitesize <https://www.bbc.co.uk/bitesize/subjects/zyr9wmn>

Twinkl <https://www.twinkl.co.uk/resources/keystage1-ks1/ks1-subjects/ks1-design-and-technology>

Cracking Ideas https://crackingideas.com/teachingresources_hub

Crafts Council <https://www.craftscouncil.org.uk/articles/>

Intent, Implementation and Impact

Intent

Design and Technology is an inspiring, rigorous and practical subject. It encourages children to learn to think creatively and to solve problems both as individuals and as members of a team. At St Andrew's, we encourage our children to use their creativity and imagination to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values.

Through a spiral curriculum that focuses on three main areas: Textiles, Cooking and Nutrition, STEAM (Science, Technology, Engineering, Art and Maths) activities, children learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. STEAM activities align with the way we work and problem solve in our daily lives, making it an exceptional way of instructing and learning. We teach skills in the way that they are used in the real world. Rarely does a job require only one skill set.

Implementation

To ensure high standards of teaching and learning in design and technology, we implement a curriculum that is progressive throughout the whole school. Design and technology is taught as part of a termly topic, focusing on knowledge and skills stated in the National Curriculum. We ensure that design and technology is given high importance, as we feel this is important in enabling all children to gain 'real-life' experiences.

The design and technology curriculum is based upon the 2014 Primary National Curriculum in England, which provides a broad framework and outlines the knowledge and skills taught in each Key Stage. Teachers plan lessons for their class using the Cornerstones Curriculum and referring to the rainbow curriculum to ensure progression of skills across the school. Teachers can use these documents to plan their design and technology lessons appropriate to their class's topics or interests (EYFS).

Our children are introduced to classic and contemporary designers in order to understand and appreciate how their designs impact on daily life and the wider world. We ask children to consider how high-quality Design and Technology makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

Impact

Assessment of children's learning in Design Technology is by ongoing monitoring of children's understanding, knowledge and skills by the class teacher, throughout lessons. The subject coordinator will monitor examples of planning and classwork, conduct learning walks to look at provision and displays, and have discussions with children and staff. This monitoring is used to inform, support and challenge both children and staff.

Summative assessment, on school tracking sheets, is conducted half-termly by class teachers to inform the subject leader of progress. EYFS pupils' progress and attainment is tracked using the Target Tracker system, telling us whether each individual child is below expected or at the expected attainment for their age. The aim is that through this monitoring, we will be able to see how Design

Technology has an impact on all children. It will be through monitoring of these lessons that we will ensure that children receive the best possible opportunities to achieve the curriculum objectives/skills and knowledge and support can be put in place where weakness has been identified.

*At St Andrew's, children will be taught to **become reflective about beliefs and values, and use their imagination and creativity to develop curiosity** in their learning. They will be helped to develop and apply an understanding of right and wrong both in and out of school and be encouraged to take part in activities to develop their social skills. Children will develop an awareness of and respect for diversity in relation to gender, race, religion and disability. All pupils will have the same access to all areas of the curriculum regardless of their gender, race or cultural background.*



Design and Technology Policy

Rationale

At St Andrew's CE (VA) Infant School, we believe that the development of design & technology will enable the achievement of personal fulfilment and the satisfaction of the whole child. The development of skills in design & technology can be applied across the whole school curriculum, providing visual and tactile experiences to which the child can relate. Children should be able to appreciate that design technology influences our lives in many ways. Aesthetic development, awe, wonder and a sense of beauty, together with an appreciation of the work and views of others will be central to our design and technology curriculum.

Aims

In teaching Design and Technology we aim to:

- Provide pupils with the skills, concepts and knowledge necessary for them to express their responses to ideas, feelings and experiences in a visual and tactile form.
- Encourage the development of imagination, original thought and personal expression.
- Enable children by developing their ability to appreciate and evaluate artefacts.
- To instil in the children an appreciation of the design, construction and suitability of everyday objects.
- To ensure that the children are aware of all hazards and have the skills to use tools and materials correctly.
- To introduce children to, and encourage the use of, the correct vocabulary.
- Develop pupils' aesthetic awareness and enable them to make informed critical responses about their own work and that of others.
- Become aware of the work of a range of famous artists to inspire, support and develop their own individual styles of work and encourage children to value the contribution made to their world by artists, craft workers and designers from many cultures and to know how this reflects and shapes our history.
- Help children develop socially through collaborative working and to enable the children to critique, evaluate and test their ideas, products and the work of others.
- To produce two-dimensional and three-dimensional work.
- To employ a range of teaching and learning styles so that pupils have the opportunity to investigate and evaluate products, identify needs, generate ideas, plan, make and test to find the best solutions, develop techniques, skills, processes and knowledge and assemble and disassemble simple objects.
- Children should be able to draw upon other disciplines such as maths, science, engineering, computing and art to develop their own work.
- Understand and apply the principles of a healthy and varied diet to prepare dishes and to have an understanding of where food comes from.

Planning

- Class teachers will plan their work in relationship to the themed work/topic they are undertaking.
- Class teachers will ensure they plan with the pupils' abilities, experiences and interests in mind.
- Class teachers will refer to the Key Skills and will ensure that adequate coverage of all aspects of design technology are taught: Developing, planning and communicating ideas/working with tools, equipment materials and components to make quality products/ knowledge and understanding of materials and components.
- Class teachers will ensure they set clear, achievable, yet challenging goals for all pupils.
- Pupils will be given the opportunity to look at a range of different designers / styles to inspire, challenge and understand the history and cultural development (these will include those famous for design).
- Through planning, pupils will have the opportunity to use a range of mediums for mark making and develop their understanding of 3-dimensional design and technology work to include salt dough, junk modelling, clay and modroc. They will also be able to explore and use mechanisms / build structures exploring how they can be made stronger / stiffer and more stable.
- Where possible, pupils will have the opportunity to use ICT to support their learning in design and technology.
- All classrooms will have a well-resourced design and technology area which the children can access freely on a daily basis.

Assessment and reporting

- Class teachers will make continuous assessments and use these to inform future planning. They will assess the on- going development of the children's skills and plan differentiated activities to meet the varying abilities of all children under the headings Emerging, Expected and Exceeding.
- Assessment data will be recorded termly on Target Tracker in the Foundation Stage.
- Parents will have the opportunity to discuss their child's progress at Pupil Progress meetings.
- Pupils' progress will be reported on in the end of year report.
- Pieces of children's work or photographic evidence will be kept as evidence of their attainment in DT.

Monitoring

- The Subject Leader will monitor teachers' planning, assessments, work books, displays, conduct lesson observations or learning walks.
- The Subject Leader will review and audit the Key Skills alongside the Head teacher.
- All the teaching staff will be involved in any alterations made to the long-term planning of the design and technology scheme and have a responsibility to ensure that the policy and Key Skills scheme of work are implemented.
- The policy will be reviewed every two years.

Behaviour & safety

- Pupils will be actively encouraged to take responsibility for their own behaviour & safety & also that of others.
- Resources will only be used if they are considered safe & this will be up to the adult in charge to check it. Class teachers must be aware of safe practice when using equipment.
- Protective clothing will be worn for activities that require it (aprons, glasses etc).
- Any accidents will be recorded in accordance with the school's health and safety policy.
- Glue guns will only be used under adult supervision.
- Stanley knives / craft knives must not be used by children or left where children may have access to them.

Consultation, Monitoring and Review

The policy will be reviewed every two years by the Subject Leader in consultation with staff and the Head teacher.

STICKY KNOWLEDGE - Art & DT Knowledge and Skills

	Knowledge	Skills
EYFS	<ul style="list-style-type: none"> • What is ART / DT? • Primary colours – red, blue and yellow • Language – mix, roll, squash 	<ul style="list-style-type: none"> • Explore colour mixing • Use and hold a pair of scissors correctly • Hold a paintbrush correctly • Select relevant equipment for a purpose – use a hole punch, sellotape, masking tape and glue • Use a knife safely and correctly to spread
Year One	<ul style="list-style-type: none"> • Secondary colours • Texture / effects with paper – rip, tear, fold, cut • Light / dark • Cut and join using split pins, treasury tags, stapler • Key artists – Andy Goldsworthy, Van Gough (and make links to their own work) 	<ul style="list-style-type: none"> • Making bread, biscuits • Select and use construction kits/materials
Year Two	<ul style="list-style-type: none"> • Shade • Tone • Pattern • (Line, shape, form and space?) • Evaluation • Shaping Joining and Finishing • Textiles • Artist (local not necessary – Peter Brooks) • Engineer • Build structures and explain how they can be made stronger, stiffer and more stable. • Explore mechanisms 	<ul style="list-style-type: none"> • Be confident at selecting and using different media for a purpose. e.g. drawing, painting, sculpture, • Design and make products in a relevant context

What does Greater Depth look like in Design & Technology?

D&T gives children the opportunity to develop skills, knowledge and understanding of designing and making functional products. We feel it is vital to nurture creativity and innovation through design, and by exploring the designed and made world in which we all live and work.

D&T Association 2020

What Greater Depth means in Design & Technology

Creating the opportunity for greater depth in Design & Technology involves allowing pupils the independence to apply their learning at a deeper level. They are the pupils who take an idea or a new skill and adapt it or develop it further independently. This means that pupils working at Greater Depth will be able to:

- Have confidence to work independently, following their own lines of enquiry to make products to solve a need they have realised. Children design by making improvements to the finished product.
- Be innovative, resourceful and make design decisions.
- Stick tightly to the brief and consider the end user's needs and preferences throughout the process.
- Think critically about and comment on other products and their own product.
- Amend their product to improve its outcome.
- Have confidence to present their work to others.

Guidance from professional bodies

The Design and Technology Association – "Design and Technology education involves two important elements - learning about the designed and made world and how things work, and learning to design and make functional products for particular purposes and users.

Children acquire and apply knowledge and understanding of materials and components, mechanisms and control systems, structures, existing products, quality and health and safety.

Design and Technology education helps develop children's skills through collaborative working and problem-solving and knowledge in design, materials, structures, mechanisms and electrical control. They are encouraged to be creative and innovative and are actively encouraged to think about important issues such as sustainability and enterprise."

There are three core activities children engage with in Design and Technology:

- Activities which involve investigating and evaluating existing products
- Focused tasks in which children develop particular aspects of knowledge and skills
- Designing and making activities in which children design and make 'something' for 'somebody' for 'some purpose'

Planning for Greater Depth

Use Bloom's Taxonomy to plan more imaginatively and broaden/deepen planned activities in order achieve GD e.g. Children can be encouraged to **recognise** a need, **appraise**/evaluate existing products, **demonstrate** & **employ** a skill, **plan, design, create, assemble**.

Teaching for Greater Depth

Good teaching in D&T features teachers who:

- use questioning and technically accurate explanations to develop children's skills, knowledge and understanding
- use existing products to inspire pupils and to support their investigations, testing and analysis
- use focused tasks and demonstrations effectively to show pupils different methods of manufacture e.g. stiffening techniques, paper mache, sewing, appropriate glue, turning boxes inside out to create aesthetically pleasing models
- use their own work to model ideas and to explain the methods they used to identify the problem or to tackle a task
- use resources effectively and adapt them well to overcome barriers to participation in practical work for pupils who are disabled or have special educational needs
- use questioning to encourage classes to contribute to the development of success criteria for design briefs, to prompt pupils to think through the problems they might encounter and to share strategies to solve them
- model and use technical language and subject-specific terms accurately
- structure learning effectively to encourage the pooling of ideas and findings to support pupils critically evaluating and extending or improving the ideas
- ensure D&T is relevant by linking activity to pupils' interests, establishing real contexts for their work, and building upon their knowledge and skills in other subjects
- manage discussions effectively to include all pupils' views and challenge pupils' thinking, particularly about the function of products and the needs of users
- ensure that learning intentions are clear in plans, make good use of available time, offer suitable challenge to all groups of pupils – including the more able – and develop their learning.

Achievement and Assessment of GD

Good achievement and challenge are evident when pupils:

- demonstrate a secure understanding of who they are designing and making for, the purpose of the product and how it would work and the specific criteria their product must meet to be successful
- communicate their ideas and plans clearly and modify their designs and prototypes in light of their testing and evaluation
- develop technical competence, applying measurement and using tools and components with some accuracy to create strong, stiff, stable products
- incorporate mechanisms in their products and explain how their products work
- begin to use a technical vocabulary when talking or writing about what they might change as their work develops

Greater Depth in EYFS

Exceeding Statements:

Children find out about and use a range of everyday technology.

The select appropriate applications that support an identified need, for example in deciding how best to make a record of a special event in their lives, such as a journey on a steam train.