Design Technology at Rokeby Primary School

Subject Leader and Author: Fran Palmer

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1. Subject statement

Intent

Our vision at Rokeby for design technology is to enable all children to use creativity and imagination to design and make products to solve real and relevant problems.

We want our children to know that everything they see and use has been designed or engineered for use. We want them to know that:

- A Rokeby design technologist looks at the purposes of a product
- A Rokeby design technologist discusses and thinks about the users of a product
- A Rokeby design technologist thinks about the functionality of their design
- A Rokeby design technologist makes different decisions on their designs and evaluates these
- A Rokeby design technologist innovates and investigates their design
- A Rokeby design technologist designs and makes products that are believable, real and meaningful to themselves and others

At Rokeby, we want to foster creativity, technical and practical expertise to promote the children's interest and understanding of design technology in daily life and the wider world. Our Design Technology curriculum in underpinned by both The National Curriculum 2014 and The Rainbow Continuum.

Implementation

Design technology is taught regularly throughout the year, where the children can combine the functionally, purpose and authenticity of their design alongside their class text. This ensures that the children are fully immersed in their learning and can transfer their design technology knowledge, decisions and innovations to a range of curriculum areas.
Cross curricular outcomes in design technology are specifically planned for, with strong links between the design technology users and products linked with the morning English lessons.
Our provision for design technology is clearly mapped out for each group so that progress and development of designing, making, evaluating and technical knowledge is key. We promote our children's language and vocabulary by frequent use of their Foundation Subject Dictionary.
All class teachers identify which children are WTS, EXS and GDS for each lesson and edit and adapt future lessons in reflection of this.

Impact

The design technology learning links to the current Power of Reading texts for each year group so children are fully immersed in their learning and able to make meaningful links between the story that they are reading and the design, make and evaluation of their product process.

Children's vocabulary knowledge is growing, this is promoted through the use of vocabulary folders that the children use to define new vocabulary for each year group. The new Design Technology resource cupboard has been expanded and restocked to meet the needs of our curriculum learning.
Learning WALT's have a clear progression through the year groups, with the firm foundations laid by the Early Years, and built on through key stage one and then key stage two.

Through pupil voice the children spoke positively about design technology and a child in year 4 stated when asked about skills they had used 'Drawing, cutting, sticking – using the glue gun, glue stick didn't work, tying knots, threading and bending'.
A child in year 5 when asked 'Do you enjoy your DT learning?' stated 'I like DT because you design from a blank box, you can show what you want by crafting it out, competitions and challenges.' Children were set challenges via our Youtube channel during lockdown.

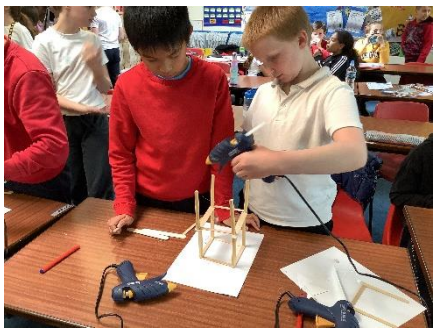
A child in year 5 stated when asked the question 'Do you know what design technology is?' he replied, 'design and make then you have to check if it works and improve it?'
A child in Year 1 when asked the question What have you made?' they stated, 'Beds, egg cosy and they had tried different ways to joins'. A Year 2 child stated to the same question, 'I've made a vehicle, cooking and we made it with different ingredients'.

Some images below demonstrate design, make, evaluate, technical knowledge, nutrition and food across the year groups.









2. Assessment

Assessment for learning:

- At the start of new projects teachers will look at previous products and projects completed by the children or last year's area of learning to understand children's prior learning and attainment.
- As well as introducing new technical knowledge that is required for the learning.

Assessment of Learning:

- Children receive feedback on their DT projects and products both verbally and in their books, through written and verbal feedback, as per our Marking and Feedback Policy (appendix 1).
- Through self, peer assessments and evaluations on the product.
- Teachers annotate their planning, at the end of each lesson and assesses which children were WTS, EXS and GDS for each lesson. This is copied for the subject leader to analyse, each half-term.
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3. Planning and Resources

Our Design Technology curriculum is based upon a collaboration of the National Curriculum 2014 and the Rainbow Continuum. The progressive learning objectives are set by the subject leader and the class teacher then uses their own skills and knowledge to plan lessons that achieve these objectives. Throughout KS1 and KS2 the

children learn about and experience mechanisms, textiles, structures, food, electrical systems and mechanical systems through Design Technology.
We also plan, as much as possible, our Design Technology projects and products around each year group's current text from the Power of Reading, however some areas of learning are stand alone.
We have a central storage cupboard of design technology resources and equipment, class teachers indicate on their short- term planning what resources and equipment they will require.

4. Teaching and Learning in the Early Years Foundation Stage (EYFS)

In EYFS, Design Technology is taught through different areas of learning, expressive arts and design (creating with materials) and physical development.

Teaching and learning takes place in a variety of different ways:

- Some direct teaching of skills particularly in tools and techniques.
- Continuous provision is set up for children to access during independent learning time and adult directed activities such as uses of materials and where technology is used for its purpose.
- Child initiated play, such as a personal interest in a product or item that a child chooses to incorporate into their play
- Incidental learning, such as a child who talks and discusses the product they have made, material used or possible use and function of the product.

5. Teaching and Learning- Key Stage One and Key Stage Two

Design technology is taught in small blocks throughout the year often in collaboration with or utilising skills from other subjects as in Art, Science, Computing and Mathematics.
Design Technology is taught for at least one hour per week, however some projects require a longer session and teachers are able to block a morning or afternoon to allow children to make their product according to their design ideas. Teachers make assessments at the end of every lesson and this informs future planning and next steps in learning through differentiation, challenge and careful monitoring of progress.
During this time, teachers make it clear to children that it is a Design Technology lesson and for this learning they will become 'design technologists'.
As our curriculum topic planning is underpinned by a half-termly text, the design purpose and product, where possible, weave throughout other areas of the curriculum and the text theme.
Children are also given opportunities through collaborative team peer and parent shared learning activities, trips and visits to enhance Design Technology through hands on practical real-life experiences.

6. Gifted and Talented Pupils

Children may be gifted and talented in a specific area or in all areas of design technology showing 'outside thinking' to designing and making products, as well as technical knowledge. Teachers make assessments at the end of every lesson and this informs future planning and next steps in learning for those children who show these gifted and talented skills within design technology, ensuring they can thrive by encouraging them to develop their creativity, technical and practical expertise. By linking design technology with other key areas of the curriculum, such as Science, Computing, Mathematics and Art children are able to achieve a greater level of depth and use higher order thinking skills.

7. SMSC

Spiritual

Children have many opportunities to reflect on their work and make improvements. Due to the nature of product design, our children make products that would appeal to others and relate to their learning, causing them to consider what makes other people happy. Through the children's design technology learning curriculum all children have rich and meaningful opportunities to use creative thinking. Through this the children build resilience and know when to accept compromise and be persistent during the 'making' phase of each design. Such examples include in year 1 during textiles making an egg cosy to keep a penguin chick warm and a visit in year 3 to the think tank on our changing planet.

Moral

Through our cooking and nutrition learning our children relish the chance to explore foods from other cultures. They are encouraged to be respectful of the difference of opinion, flavours and ingredients used by people around the world. Children confidently express their views about designs. They make rational judgements about what is achievable and willingly review and alter their designs. Such examples include food and nutrition in year 6 celebrating French cooking and seasonality.

Social

Through our cooking and nutrition, mechanisms and mechanical systems, children relish the chance to explore the foods of other cultures, design and build products together and develop different techniques and skills. They are encouraged to be respectful of the difference of opinion, work in small groups or pairs. Children confidently express their views about designs. They make rational judgements about what is achievable, and willingly review and alter their designs. Such examples include year 4 mechanical systems making a catapult and a trip in year 5 to the Lego discovery centre.

Cultural

Children learn about key designers who have helped to shape our heritage, culture and world. In DT children are offered a rich range of experiences; trips, visitors and being exposed to foods from different cultures. Children are open to the reality that their ideas will differ to those of others. Such examples include a trip in year 3 to the Black Country museum and in year 6 a visit to Cadbury world.

8.The Role of the Subject Leader

The main role of the Design Technology subject leader is to inspire children and staff to use creativity and imagination to design and make products to solve real and relevant problems.
The subject leader will:

- Promote DT through high-quality displays around the school.
- Ensure Continuous Professional Development (CPD) for all teaching staff, sharing expertise and through practical experiences to take back into class.
- Carry out learning walks and lesson observations and work with teaching staff to identify strengths and weaknesses.
- Carry out monitoring of children's books and speaking with children about their products and designs
- Monitor progress through teacher's annotated planning and half termly tracking grids for children showing WTS, EXS and GDS.
- Organise, audit and purchase Design Technology resources, and ensure resources are well maintained and stocked.
- Attend network meetings with DT and STEM leaders from other schools, within the Stowe Valley Multi Academy Trust.
- Share ideas for trips/visits with staff to enhance Design Technology through hands on practical real life experiences for the children.

9.Parents/ Carers

We aim to involve our parents and carers in many different parts of school life. We involve our parents and carers in Design Technology by:

- Each half-term, parents are invited into school, to take part in a cross-curricular shared learning event with their child.
- An annual report is sent home, indicating current attainment and progress in Design Technology.
- Parents evenings are held twice and year and give parents/carers the opportunity to discuss their child's progress.
- Parents/Carers can communicate with their child's teacher on Class Dojo, if they need any support with their child's learning and to share with them any resources that the class may need to try and bring in for their product, such as shoe boxes or cardboard.

10. Safeguarding

At Rokeby our Design Technology curriculum and learning style is inspiring, rigorous and a practical hands–on subject which allows children to take safe risks. Allowing our children to use their creativity and imagination, we place high value on the importance of teaching children strategies to keep themselves physically and emotionally safe and to take safe risks. Rokeby children design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values.
We do this by:

- Teaching our EYFS children through to year 6 about the importance of washing hands thoroughly before any food, nutrition or cooking learning
- Teaching our children about the hazards of different tools from rounded ended knives in cooking to hacksaws, low melt glue guns, sharp knives, snip and utility scissors
- Not only teaching the children about the hazards but how to use the tools correctly to take safe risks during design technology learning
- Every year group has a food design learning half term, focusing on eating the right amounts of different types of food, the importance of good hygiene and experiencing a variety of foods.
- In KS2 learning about different electrical systems and why electrical systems are needed, including using the equipment safely.
- In Year 1 children are taught how to use a low melt glue gun to join materials together
- In Year 3 children are taught how to connect different electrical components to turn a light bulb on and off and how to do this safely

- In year 6 children are taught how to use the hacksaws and low melt glue guns to cut and join small dowels to make rigid structures
- Children are taught to work independently and collaboratively on design ideas learning to work as a team, sharing and discussing ideas and turn taking.

During all our design technology work we teach our children about the safe use of equipment, using protective clothing such as goggles or aprons where appropriate. Safe handling of objects and materials when designing and making. There is a risk assessment for Design technology which details safety control measures that staff take when teaching a range of make activities.

11. Children with SEND in DT

At Rokeby, our Design Technology curriculum and learning style is inspiring, rigorous and is a practical hands–on subject, which allows all our children to have regular practical, hands-on learning activities in and out of the classroom.

As part of our high-quality teaching of Design Technology, the needs of all learners for cognition and learning, emotional and social, sensory and physical needs and communication and language are met. This will be seen in everyday teaching and learning of Design Technology through:

- Scaffolded learning – modelling how to design and make a product, providing templates for design and writing frames for SEND children to refer too, enabling them to record their ideas for their product design or evaluation.
- Providing explicit instructions – breaking instructions down into smaller steps for SEND children who are carrying out make and evaluation of products; providing examples of new vocabulary words using communicate in print or Makaton to enable SEND children to understand words used in instructions
- Providing opportunities for SEND children to repeat and revisit learning throughout their time at Rokeby through our Curriculum mapping to build and consolidate learning over time
- Providing examples of what a design technologist is/does with clear models of what is expected and what to aim for
- Making use of technology – providing alternative means for children to present their learning such as using Talking Tins, PowerPoint presentations, video recordings on the IPAD or use of software such as Clicker 8
- Teaching techniques to support children's cognitive and metacognitive understanding – pre-teaching new vocabulary; providing checklists to support learning or key vocabulary using communicate in print; scaffolding the thought process or using sustained shared thinking by thinking aloud for the children ("I'm wondering what type of beds are already designed. What will I use from the designs I can see"); providing visuals such as aided communication mats, Communicate in Print cards or picture word banks to support children with cognition, learning and communication needs; using Makaton to support children with SEND
- Being flexible with groupings – this might include grouping children with similar SEND needs together to provide them with the additional support that they need or pairing SEND children with good role models such as children with good design technology understanding or creative imagination.