Design Technology at The Ryde School

Research and Reading

The Design and Technology Association providing up-to-date advice on areas such as putting the subject into context while stimulating creativity and confidence. https://www.data.org.uk/for-education/primary/

Stem Learning providing starting points for quality design and technology teaching and learning https://www.stem.org.uk/primary-dt-resources

Quality teaching in primary design and technology in England: Robert Bowen Department of Primary Education, Nottingham Trent University https://ojs.lboro.ac.uk/JDTE/article/view/609/581

A review by Ofsted of research into factors that influence the quality of design technology education in schools in England. https://www.gov.uk/government/publications/meeting-technological-challenges-school-design-and-technology-provision

Cognitive Load Theory and its application in the classroom: Dominic Shibli and Rachel West https://impact.chartered.college/wp-content/uploads/2018/03/Cognitive-Load-Theory-and-its-application-in-the-classroom.pdf

Design Technology Curriculum Rationale

At The Ryde School we are designers and technologists! We want our children to love design technology. We want them to have no limits to what their ambitions are and grow up wanting to be architects, graphic designers, chefs or carpenters. We want them to embody our core values. We all believe that: “From little acorns mighty oaks grow”. The design technology curriculum has been carefully crafted so that our children develop their design and technology capital. We want our children to remember their DT lessons in our school, to cherish these memories and embrace the DT opportunities they are presented with! **Children in Year 6 were set a challenge of designing and building their own Gingerbread House as part of a cross-curricular DT and History project. The children were encouraged to design and then improve their prototype structure and joining techniques during the project. Things really did go back in time as the children ended their topic in dramatic fashion as they spent the afternoon decorating their houses inspired by a Tudor style! Bringing design technology alive is important at The Ryde School.**

Curriculum Intent

The design technology curriculum promotes curiosity and a love and thirst for learning. It is ambitious and empowers our children to become independent and resilient – like all curriculum areas.

We want to equip them with not only the minimum statutory requirements of the design technology National Curriculum but to prepare them for the opportunities, responsibilities and experiences of later life. **For example, we have a wonderful school allotment where the children frequently visit, cultivate and harvest what they grow every year. The crops are often used to create healthy meals and snacks in design technology. Vegetables are used as part of our cookery lessons and the children harvest their homegrown vegetables. Children in Year 1 have turned vegetables in to toppings for pizzas and children in Year 3 used salad items to learn how to prepare ingredients hygienically using appropriate utensils, designing and making sandwiches to enjoy as part of their healthy eating project. Our Forest School also offers opportunities to develop DT skills progressively across the school using a range of tools.**

We want our children to use the vibrancy of our great town to learn from other cultures, respect diversity, co-operate with one another and appreciate what they have. We achieve this by providing a strong Spiritual, Moral, Social, Cultural curriculum, with British Values and our core values placed at the heart of everything we do. This often feeds into the design technology curriculum. **For example, the whole-school celebrated the local aircraft history and its impact on the area with 'DeHavilland and flight' as a theme where children made kites, paper aeroplanes and spinners. The children learnt to design, make prototypes and make improvements for a final design. The whole school then went to Hatfield House to test their final products.**

We enrich their time in our school with memorable, unforgettable experiences – this piques their interests and passions. **For example, our Reception children went on an adventure in a Space Dome where they explored the sun and the solar system. Back in class the children used their experience to design and make their own solar system, using the skill of joining, which were so creative due to this 'real' experience.** We firmly believe that it is not just about what happens in the classroom, it is about the added value we offer to really inspire our children.

Curriculum Implementation

The school has made the decision to follow the Chris Quigley education plan and therefore a complete audit of the design technology curriculum will be conducted as we've been through our first two-year cycle. On the back of the findings from this audit, the design technology curriculum will be carefully built and the learning opportunities and assessment milestones for each year group crafted to ensure progression and repetition in terms of embedding key learning, knowledge and skills. **For example, the way design technology is taught at our school has been revamped and now follows a consistent structure. Initially, pupils take inspiration from design throughout history to help generate ideas for designs. They explore and**

practice the practical skills involved in the topic and then design, make, evaluate and refine their final products. This approach is taken for every design technology topic. Pupils work in DT is presented in individual exercise books or through displays.

Design technology subject specific characteristics, which we expect the children to demonstrate, have been developed and shared with all stakeholders. These characteristics underpin all work in DT and form a focal point for display areas and provide a common subject specific vocabulary for staff and pupils. These characteristics are:

- **Significant levels of originality and the willingness to take creative risks to produce innovative ideas and prototypes.**
- **An excellent attitude to learning and independent working and passion for the subject and knowledge of, up-to-date technological innovations in materials, products and systems.**
- **The ability to use time efficiently and work constructively and productively with others.**
- **The ability to carry out thorough research, show initiative and ask questions to develop an exceptionally detailed knowledge of users' 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 mathematical knowledge.**
- **The ability to manage risks exceptionally well to manufacture products safely and hygienically.**

We empower our staff to organise their own year group curriculums under the guidance of our subject leaders. Teachers are best placed to make these judgements. Staff develop year group specific long-term curriculum maps which identify when the different subjects and topics will be taught across the academic year. The vast majority of subjects are taught discretely but staff make meaningful links across subjects. They link prior knowledge to new learning to deepen children's learning. **For example, in Year 1 when the children explore 'Food and Nutrition' they also tackle healthy eating in PSHE and 'Animals, including humans' in science where they look at what animals and humans need to survive. Our children are taught the right, connected knowledge.**

Our short-term plans are produced on a weekly and daily basis. We use these to set out the learning objectives for each lesson, identifying engaging activities and resources which will be used to achieve them.

Design Technology is taught in a 6-7 week block, with a weekly lesson. This helps to ensure that the children see the whole process from start to finish – from existing products through to their finished product. We believe that by crafting our curriculum this way, we improve the potential for our children to retain what they have been

taught, to alter their long-term memory and thus improve the rates of progress they make.

Curriculum Impact

We use both formative and summative assessment information in every design technology lesson. Staff use this information to inform their short-term planning and short-term interventions. This helps us provide the best possible support for all of our pupils, including the more able. The assessment milestones for each phase have been carefully mapped out and further broken down for each year group. This means that skills in design technology are progressive and build year on year.

Our staff use design technology formative assessment grids to systematically assess what the children know as the topic progresses and inform their future planning. These formative assessment grids then inform summative assessment judgements for each topic.

Assessment information is collected frequently and analysed as part of our monitoring cycle. This process provides an accurate and comprehensive understanding of the quality of education in design technology. A comprehensive monitoring cycle is developed at the beginning of each academic year. This identifies when monitoring is undertaken. Monitoring in design technology includes: book scrutinies, lesson observations and/or learning walks, pupil/parent and/or staff voice.

All of this information is gathered and reviewed. It is used to inform further curriculum developments and provision is adapted accordingly.

At The Ryde School, we are DESIGNERS AND TECHNOLOGISTS!