St Helens Primary School

Design and Technology Vision statement

Subject Leader: Mrs Rees

Link Governor: Sarah Searle

1. Why is design and technology important?

Design and Technology prepares children to deal with tomorrow's rapidly changing world. It encourages children to become independent, creative problem solvers and thinkers as individuals and part of a team. It enables them to identify needs, opportunities and to respond to them by developing a range of ideas and by making products and systems. Through the study of Design and Technology, children can learn practical skills alongside developing an understanding of aesthetic, social and environmental issues.

Design and Technology embeds our St Helens Primary School values. It is an inspiring and practical subject, which requires creativity, determination and excellence. Pupils design and make products that solve real and relevant problems within a variety of contexts. It is very cross - curricular and draws upon subject knowledge and skills within Mathematics, Science, History, Computing and Art. Children learn to take risks, be reflective, innovative, enterprising and responsible. Through the evaluation of past and present technology they can reflect upon the impact of Design Technology on everyday life and the wider world.

2. How we teach Design and Technology at St Helens Primary.

It is the intent of St Helens Primary School for Design Technology to be taught in all year groups through at least one topic per term. Design Technology projects are often made cross-curricular - linking to other subjects taught. Key skills and knowledge for D&T have been mapped across the school to ensure progression between year groups. The context for the children's work is also well considered and children learn about real life structures and the purpose of specific examples, as well as developing their skills throughout the programme of study.

We understand that design and technology develop children's creativity, one of our key values. We want our children to know how this subject has contributed to our culture and understanding of our history and the world. Alongside lessons we take part in enrichment programs which contribute to developing children's understanding and progress in this subject such as Lego League and Primary engineer. The children will have opportunities to take inspiration from other individuals, materials and create/develop their own ideas and designs in their particular styles. Within design and technology lessons all pupils are taught together as much as possible. This fosters a sense of social inclusion and supports the performance of the children who are progressing more slowly.

Food technology is implemented across the school with children developing an understanding of where food comes from, the importance of a varied and healthy diet and how to prepare this. This links to our focus on outdoor learning by encouraging our pupils to grow, harvest and cook

their own produce, for example, St Helens has a gardening club where children can harvest raspberries, strawberries and many vegetables which they can cook, then share.

3. Progression in DT

Design and Technology key skills and knowledge have been mapped across the school to ensure progression between year groups. Please refer to our school progression map for further details.

4. National curriculum and Design and Technology coverage

The objectives for Design and Technology in KS1 and KS2 are clearly set out for each year group in the National Curriculum.

https://www.gov.uk/government/publications/national-curriculum-in-england-design-and-technology-programmes-of-study/national-curriculum-in-england-design-and-technology-programmes-of-study

The national curriculum for Design Technology aims 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

5. Early Years Foundation stage

It is important in EYFS to give children a broad, play-based experience of DT in a range of contexts, including outdoor play. The early years learning environment includes many opportunities for children to design, make and evaluate different models in the continuous provision. They can choose to use junk, dough, large and small construction as well as different enhanced provision that is available at times throughout the year. Children gain confidence, control and language skills through opportunities to explore using a range of cutting, tearing, folding and building techniques which develop their fine and gross motor skills. This area of the curriculum is a great motivator to get all children enthused about writing, drawing and making.

6. Links to other subject areas.

At St Helens Primary School, the curriculum is aligned so that the teaching of design and technology is linked with our curriculum topics.

English
There are many opportunities across all year groups for children to further develop their English skills through their Design and Technology learning. Collaborative learning is an integral part of the way that Design and Technology is taught at ST Helens and children are encouraged to ask and answer questions and discuss ideas in pairs, groups and as a whole class, and we also provide opportunities for evaluative feedback to others.

Mathematics

Maths naturally has clear STEM links, and through their learning, children are using and applying mathematical knowledge. Some examples below are:

- Measuring ingredients during food projects.
- Using a range of mathematical equipment when constructing products
- Understanding the use of shapes within structures
- Using their knowledge of angles in levers and linkages

Science

As part of our curriculum planning, many DT projects now support the scientific understanding and concepts taught within each year group. Examples of these links include:

- knowing about healthy foods when producing food projects
- understanding the properties of materials when designing and making structures
- understanding materials when working with structures mechanisms and textiles (KS1).
- understanding nutritional value of foods (KS2)
- reversible and irreversible changes and balanced diets during food projects (Ks2)
- applying their understanding of circuits during the electrical systems projects (Ks2)

Personal, social, health and citizenship education (PSHCE)

Pupils are given the opportunity to exercise imagination, inspiration, intuition and insight through creativity and risk taking when analysing, designing and manufacturing a range of products. It raises awareness of the moral dilemmas by encouraging pupils to value the environment and its natural resources and to consider the environmental impact of everyday products. By providing opportunities to work as a team, recognising others' strengths and sharing equipment, children develop social skills. Alongside this D.T. investigates how different cultures have contributed to technology, and it reflects on products and inventions

ICT

Computing supports our teaching of Design and Technology wherever appropriate, particularly within KS2. The children use computing in a variety of ways such as research of products and recipes and understanding computer aided design.

7. British Values

British Values is a core value that all staff share at St Helens Primary. British Values links with design and technology in a variety of ways. Throughout the year, we look at various aspects of British Values such as Remembrance Day. Children participated in creating poppies from recycled materials for a display outside.