



Design and Technology at St Luke's

Intent

At St Luke's, we believe that design and technology (DT) is an essential subject that empowers children to become innovative problem solvers, creators, and critical thinkers. Our DT curriculum is designed to develop creative thinking, technical skills, and a passion for design.

Through our DT lessons, we aim to develop the following in our pupils:

Creative thinking and problem-solving skills: Pupils will develop their ability to generate ideas, solve problems, and evaluate solutions, fostering a creative and innovative approach to design.

Technical skills and knowledge: Pupils will acquire essential technical skills, such as using tools, materials, and appropriate technologies, to create functional and aesthetically pleasing products.

Design process knowledge and understanding: Pupils will grasp the principles of the design process, including research, ideation, prototyping, evaluation, and improvement, to effectively design and develop products.

Empathy and user-centred design: Children will develop empathy for users and the context of their needs, considering factors such as accessibility, sustainability, and environmental impact.

Entrepreneurship and innovation: Pupils will explore concepts of entrepreneurship and innovation, developing the confidence to apply their design skills to create new and valuable products.

We encourage pupils to have a growth mindset to design and make products that solve real and relevant global issues. Through our interweaved curriculum we make links with other subjects for example, mathematics, history, science, the arts and computing.

Our pupils are given opportunities to be reflective, critical evaluators and are encouraged to design innovatively and take risks in their learning. We want children to enjoy the iterative process.



Implementation

Our DT curriculum is delivered through a variety of engaging and hands-on methods, including:

Problem-based learning: We encourage children to identify and solve real-world problems through design and technology.

Project-based learning: We engage pupils in long-term DT projects that allow them to apply their skills and knowledge to create tangible products.

Inquiry-based learning: We facilitate a process of inquiry and experimentation, encouraging children to ask questions, research, build prototypes and test their design ideas.

Varied tools and materials: We provide children with access to a wide range of tools, materials, and technologies to support their design and prototyping process.

Collaborative learning: We promote teamwork and collaboration, allowing pupils to share ideas, solve problems together, and learn from each other's perspectives.

Through a range of creative and practical activities, we give pupils core knowledge and support in practising skills, and assistance to develop a deeper understanding of the design world and industries.

Using a research-based approach to planning and teaching, each unit follows a clear learning cycle: research, design, make and evaluate.

In KS1 children build structures, exploring how they can be made stronger, stiffer and more stable coupled with using mechanisms such as levers, sliders, wheels and axles, in their products.

In KS2 children apply their knowledge to more complex structures and use mechanical systems for example, gears, pulleys, cams and levers. In addition, we plan opportunities for all pupils to develop their technical knowledge of complex structures, mechanical and electrical systems as well as applying their understanding of computing to programme and control their products. Within cooking and nutrition and with links to science and geography children learn where food comes from and use the principles of a healthy and varied diet to prepare dishes. Deepening their knowledge of where and how a variety of ingredients are grown, reared, caught and processed.

Their success is celebrated through assemblies, home-learning projects and having their work displayed.



Impact

The impact of our DT curriculum is evident in:

Enhanced creativity and problem-solving skills: Pupils demonstrate increased creativity, innovation, and the ability to apply their design skills to solve complex problems.

Developed technical skills: Pupils acquire proficiency in using tools, materials, and technologies, enabling them to create functional and aesthetically pleasing products.

Deepened understanding of the design process: Pupils grasp the principles and stages of the design process, from ideation to evaluation and improvement.

Empathy for users: Pupils develop empathy for users and their needs, creating products that are both functional and user-friendly.

Entrepreneurial mindset: Pupils develop an entrepreneurial mindset, considering factors such as marketability and sustainability when designing products.

As engineers, St Luke's pupils learn to become risk takers, think sustainably, be innovative, enterprising and capable global citizens. Through planned and purposeful evaluation activities, pupils develop a critical understanding of design and technology, able to articulate the process using technical vocabulary and how it impacts on not only their daily life but the lives of others.

Through our high-quality design and technology curriculum and our work with organisations such as Open City London, Architecture in Schools and The Building Centre pupils at St Luke's make a significant contribution to the world of creativity, culture and enterprise promoting STEAM subjects as future career pathways.