



DESIGN & TECHNOLOGY CURRICULUM OVERVIEW FOR PARENTS

OUR SCHOOL VISION

“Striving for excellence together in a caring Christian community.”

RESPECT COMPASSION COURAGE

As a Church school, we believe that people grow in mind, body and spirit. Christian values are the foundation of our teaching and our ethos as we strive together for excellence for all. We aim for each member of our school community to fully engage in the great adventure that is Primary education.

Working together, we aim for all of our school community to become:

- successful learners who enjoy learning and exploration, make progress and achieve;
- confident, well-rounded individuals who are able to live safe, healthy and fulfilling lives; and
- responsible citizens with strong moral and social values who make a positive contribution to society.

“I came to give life—life in all its fullness.” John 10:10

LIVING OUR VISION THROUGH DESIGN AND TECHNOLOGY

Our Design and Technology curriculum helps children become **creative, thoughtful and practical makers** who work together to solve real problems and improve their world. Children design and build collaboratively, sharing roles, testing ideas and learning to use tools and materials safely, while showing **respect, compassion and courage** when working with others. Projects link to real-life contexts and other subjects so children see the purpose of their learning, understand the impact of design choices on people and the planet, and use their skills to contribute positively to school and community life.

YEAR GROUP BREAKDOWN

- **Year 1: Mechanisms and Structures** Children learn to create movement using **hinges, levers, and sliders**. they explore **freestanding structures** to understand stability and begin their journey in **food** by learning to prepare fruits and vegetables, meeting KS1 nutrition requirements.
- **Year 2: Wheels, Axles and Textiles** Pupils investigate **wheels and axles** to create moving vehicles. They are introduced to **textiles**, focusing on using templates and basic joining techniques. Their **food** studies continue with further skill development in preparing healthy produce.
- **Year 3: 3-D Products and Linkages** Children move from 2D shapes to creating **3-D textile products**. They explore **mechanical systems** using levers and linkages to create more complex movement. In **food**, they study healthy and varied diets according to KS2 requirements.



- **Year 4: Shell Structures and Electrical Systems** Pupils design **shell structures**, incorporating **Computer-Aided Design (CAD)** for the first time. They are introduced to **electrical systems**, building simple circuits and switches while exploring basic programming and control. In **food**, they learn the skill of adapting recipes.
- **Year 5: Frame Structures and Complex Mechanics** Children build **frame structures**, learning how to reinforce them for strength. They investigate **mechanical systems** involving pulleys, gears, or cams. In **food**, the focus shifts to celebrating culture and seasonality in cooking.
- **Year 6: Advanced Textiles and Electrical Monitoring** In their final year, pupils combine different fabric shapes using **CAD** to create complex **textile** products. They master **electrical systems** by using complex switches and circuits, incorporating programming, control, and monitoring. They conclude their **food** studies by exploring global cultures and seasonal ingredients.

PROGRESSION

Our curriculum ensures children progress through the fundamental stages of the design process:

- **Design:** Moving from simple talk-based ideas to annotated sketches and eventually using **Computer-Aided Design (CAD)** to plan products.
- **Make:** Children progress from using basic joining techniques to mastering complex mechanical and electrical systems, including programming and monitoring.
- **Evaluate:** Pupils develop the ability to test their ideas, share roles, and reflect on the impact of their design choices on the planet and the community.
- **Technical Knowledge:** Children build a vocabulary of "substantive concepts"—understanding how mechanisms, structures, and circuits function in real-world contexts.

HOW PARENTS CAN SUPPORT

- **Kitchen Skills:** Encourage your child to help with preparing fruit and vegetables or adapting family recipes to build their confidence in food nutrition.
- **Notice Mechanisms:** When playing with toys or using household items, look for **hinges, levers, or wheels** and discuss how they create movement.
- **Explore Structures:** Look at buildings or packaging (shell structures) and discuss what makes them strong or stable.
- **Celebrate Curiosity:** Just as in history, praise the effort children put into testing ideas and having the **courage** to try a different approach if a design doesn't work the first time.



GLOSSARY OF TECHNICAL TERMS

- **Mechanism:** A device (like a lever or slider) that changes an input motion into an output motion.
- **Freestanding Structure:** A structure that stands on its own without being attached to anything else.
- **CAD (Computer-Aided Design):** Using specialized software to create or improve a design.
- **Shell Structure:** A hollow structure that gets its strength from its thin, shaped outer layer (like an egg or a cardboard box).
- **Frame Structure:** A structure made of a skeleton of parts joined together (like a tent frame or a skyscraper).
- **Linkage:** A system of levers connected to transmit motion and force.
- **Programming and Control:** Giving a set of instructions to a system (like an electrical circuit) to make it perform a specific task.