

St John the Baptist  
Curriculum Vision  
Subject: DT



### Vision

Our aim is that children leave our school with an understanding of how inventors and engineers have a positive impact on our daily lives through evaluation of past and present design and technology. In addition to this, children will be respectful when designing and making products for others; taking into consideration other's needs, wants and values. Through a diverse range of experiences, children will know the importance of resilience when inventing, by taking risks, testing their ideas and products and evaluating their work and that of others.

### Context

Resilience is a core aspect of our Golden Rules and children need to be able to demonstrate this in order to research and solve problems in the 'design' and 'make' elements of the DT curriculum, using a real-life approach with a purpose. Children enter school needing to develop their fine and gross motor skills so our curriculum allows this to be developed over time, teaching children the appropriate skills to achieve the 'make' aspect. The cookery and nutrition aspect of DT are an important aspect of our curriculum as school has some of the highest levels of childhood obesity and poor dental health. We link, where possible, our cookery to festivals to give the children a broader understanding of cultures outside the estate.

### Therefore, in EYFS...

**During EYFS children will** have the opportunity to use all their senses to explore different materials. They will learn the names of different materials and tools; what they can do and decide how they want to use them. Children will learn to join different materials investigating a range of joining techniques. They will learn that different materials and tools and recognise that it is possible to change and alter their designs and ideas as they are making them. Throughout EYFS, children will be encouraged to develop their imagination. Children will learn the importance of keeping themselves safe and will experience preparing food and cooking, following recipes that include measures and ingredients. They will learn that there are healthy and unhealthy foods and that fruit and vegetables are an important part of a healthy diet. Children will learn the importance of food hygiene.

**By the end of EYFS children will** be able to name and use different materials and tools and know that these are objects that we use every day. Children will know how to keep themselves safe when using equipment and understand the importance of following instructions. Children will begin to identify the origins of some food. They will be able to work independently or collaboratively, sharing ideas and resources. Children will be ready to put this exploration into action in KS1.

### In KS1...

**During KS1 children will** learn about designing and making simple products and structures with a purpose, including learning the term 'mechanism' and be able to assemble and test simple mechanisms which will then develop into the addition of sliders, levers and linkages. They will learn about food sources, preparation and cooking techniques. Children will later develop their knowledge of structures through the skills of cutting, joining and strengthening wood.

**By the end of KS1 children will** know a variety of basic skills and be able to select the most appropriate tool for the task while demonstrating safe usage. They will have the ability to suggest improvements to products and evaluate their effectiveness. They will have the knowledge of mechanisms and their purpose. Children will have a greater understanding of where their food comes from and be able to describe the types of food needed for a healthy and varied diet. Children will be able to explain why a designer or inventor is important.

### In LKS2...

**During LKS2 children will** continue to learn about food, understanding the concept of a balanced diet and making healthy meals. They will also learn about food safety and preservation technologies before designing and making packaging for a healthy snack. Children extend their understanding of mechanisms by exploring cams; using joining and finishing techniques; learning about six simple machines and using their knowledge to create a prototype. They will develop their knowledge of structures, using triangles and braces for strength. They design and build a greenhouse, using their understanding of the needs of plants from science learning to inform their design. Children will explore textiles, learning about the work of William Morris before designing, embellishing and finishing a fabric sample.

**By the end of LKS2 children will** be able to investigate and identify the design features of a familiar product. Children will be able to use a range of mechanisms (levers, sliders, axles, wheels, gears, pulleys and cams) in models or products. Children will be able to select, name and use a wider range of tools for cutting and know these should only be used under adult supervision and safety rules. Children will be able to use printing techniques on fabric and use embellishments to make their product more attractive. Children will be able to use cooking techniques including baking, boiling, frying, grilling and roasting to prepare a simple meal or snack. Children will know and be able to name the five main food groups. Children will be able to create and use a comparison table to compare products by listing specific criteria on which each product can be judged or scored. Children will be able to evaluate by suggesting improvements and explaining why they should be made. Children will be able to identify what has worked well and what aspects of their products could be improved. They will be able to act upon their own suggestions and those of others. give and take suggestions. Children will know that significant designers and inventors can shape the world.

### **In UKS2...**

**During UKS2 children will** deepen their understanding of mechanisms by studying pneumatic systems. They will learn about the forces at play and create a prototype for a functional, pneumatic machine. Children will continue to explore food and nutrition, learning about seasonal foods and the benefits of eating seasonally. They will learn more about structures, studying the history of architecture and developing new ways to create structural strength and stability. They also explore the electrical conductivity of materials before making products incorporating circuits in the science. Children will learn about processed and whole foods, creating healthy menus from unprocessed foods. Children will consolidate their knowledge of structures, joining and strengthening techniques and electrical systems by completing a bridge-building challenge. They will extend their knowledge of textiles by learning new stitches to join fabrics and using pattern pieces to create a range of products.

**By the end of UKS2 children will** know that everyday products have improved people's lives in countless ways due to new inventions and designs. They will be able to analyse how an invention or product achieved this. Children will know the importance of the safety of the user has to be considered when designing a new product such as, providing clear instructions for use; clear indication of the age range for which it is designed; safety features; warning symbols and electrical safety checks. They will be able to use electrical circuits of increasing complexity in their models, showing an understanding of control. Children will be able to communicate their ideas in a range of ways, including through discussion, annotated sketches, diagrams, prototypes, pattern pieces and computer-aided design. Children be able to name and select increasingly appropriate tools for a task and will have an increasing awareness of the rules for using tools safely and know that these may vary depending on the tools being used. Children will be able to pin and tack fabrics in preparation for sewing and understand the characteristics of different materials to select the most appropriate material for a purpose. Children will be able to follow a recipe that requires a variety of techniques. Children will know that a balanced diet gives your body all the nutrients it needs to function correctly. Children will know that products and inventions can be compared using a range of criteria, such as ease of use, appearance and value for money. Children will be able to test and evaluate products against a detailed design specification and make adaptations as they develop the product. They will be able to use self-evaluation and evaluation from others to develop a product. Children will be able to describe the social influence of a significant designer or inventor and how it has enhanced culture in different areas, such as fashion, ceramics or computer games. They will be able to present a detailed account of the significance of a favourite designer or inventor.

### **Developing spirituality and British Values**

DT supports children's spiritual development by providing the opportunity for them to develop their imagination, ideas and understanding through creativity and risk taking in analysing, designing and manufacturing a range of products. It instils a sense of awe and wonder when studying the natural world and human achievements and when realising the functions and structure of products in our world. DT allows children to reflect and learn from their reflections. DT helps children to develop an understanding of the rule of law by teaching about the importance of safety rules for themselves, others when evaluating products and using equipment. Children understand that if these rules are not followed there are consequences to this. DT helps children develop an understanding of democracy. It provides opportunities for children to take views and opinions of others into account while understanding that they still have a right to make choices for example, when designing and what tools and equipment to use. At St John's we celebrate diversity and encourage our children to have a mutual respect and tolerance of those with different faiths and beliefs. DT enables our children to recognise that many great designs are from different cultures around the world. In DT, our children are encouraged to tolerate ideas from others that are different to their own and also to offer supportive comments in evaluations. Children are able to develop a sense of individual liberty through listening to others but understanding that they can still use their own ideas and designs. Children develop the ability to accept others' ideas even if they are different from their own.