

Design and Technology – Rationale

In Key Stage One, children are provided with exciting opportunities to design and create purposefully. Children are taught to develop a range of simple skills, such as cutting and joining; they will also explore a variety of materials, including: textiles, card and ingredients. They are taught to design and build simple mechanisms, including levers, dials and wheels and axles, using a variety of materials and joining strategies. Children are given clear design briefs from which to design their products. Across the key stage, pupils are taught to evaluate their work against their design briefs.

In Lower Key Stage Two, children are given clear and demanding design briefs, which they must meet. Design briefs are carefully created to give purpose, audience and meaning to the children's work. Children will work with multiple disciplines including: textiles, construction (in particular, strengthening, supporting and stiffening) and cookery (including the seasonality of vegetables). Children will be inspired by exploring and evaluating existing, similar products. Following the completion of products, children will be taught to evaluate their work against the design brief and consider aspects that could be improved. Throughout the phase, children will be encouraged to improve on knowledge, skills and techniques they were taught in Key Stage One. They will also be taught the links between other subjects and design and technology.

In Upper Key Stage Two, children will be taught to incorporate all of their previous learning into constructing purposeful and complex products, which are carefully linked to their learning in other aspects of study. Children will revisit their learning on electricity in year 4 to enable them to begin entwining electrical circuits into their designs; they will also further develop their knowledge of mechanisms by considering how pulleys and gears can be used to create a product – a solar system teaching tool. Children will continue to develop their knowledge and understanding of seasonality through a BBQ cookery project. Following work in computing, the children will begin to construct and build products that can be programmed. Throughout the phase, children will be taught to explore existing products, as well as design, make and evaluate their own products with a design brief in mind.