



## Lowerhouse Junior School Design & Technology



### Our Values and Pupils' Personal Development

Our curriculum is an important means by which we develop the values of our school in our pupils during their time at Lowerhouse Junior School. When planning and delivering lessons, teachers give attention to our values of **Aspiration, Integrity, Resilience** and **Respect** which are relevant to the unit of work. Our aim is to encourage positive attitudes to learning, to ourselves as individuals and to other members of our community.

### Cultural Capital

Through our curriculum we aim to provide our children with the skills and knowledge they require to be educated citizens with an appreciation of human creativity and achievement throughout human history. With these insights our pupils will have the capacity to be happy, independent, confident individuals able to benefit from and contribute to their local communities and wider society.

### Reading

The effective teaching of reading is of paramount importance. Becoming efficient readers enables our children to achieve our other curricular aims much more easily. It is a skill for life. We give the highest priority to the improvement of children's reading





### Purpose of Study

A high-quality geography education should inspire in pupils a curiosity and fascination about the world and its people that will remain with them for the rest of their lives. Teaching should equip pupils with knowledge about diverse places, people, resources and natural and human environments, together with a deep understanding of the Earth's key physical and human processes. As pupils progress, their growing knowledge about the world should help them to deepen their understanding of the interaction between physical and human processes, and of the formation and use of landscapes and environments. Geographical knowledge, understanding and skills provide the frameworks and approaches that explain how the Earth's features at different scaled are shaped, interconnected and shaped over time.

### Purpose of Study

Music is a universal language that embodies one of the highest forms of creativity. A high quality music education should engage and inspire pupils to develop a love of music and their talent as musicians, and so increase their self-confidence, creativity and sense of achievement. As pupils progress, they should develop a critical engagement with music, allowing them to compose, and to listen with discrimination to the best in the musical canon.

### Aims



-  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.

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of



relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment.

## **Key Stage 2**




### **Design**

-  use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
-  generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design





### **Make**

-  select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
-  select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities

### **Evaluate**

-  investigate and analyse a range of existing products
-  evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
-  understand how key events and individuals in design and technology have helped shape the world




### **Technical knowledge**

-  apply their understanding of how to strengthen, stiffen and reinforce more complex structures
-  understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
-  understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
-  apply their understanding of computing to program, monitor and control their products.

### **Cooking and Nutrition**

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

Pupils should be taught to:

-  understand and apply the principles of a healthy and varied diet
-  prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques
-  understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

### **Intent**

As Designers and technologists, we do not just stop at our curiosity of how things work but instead look at how we can think creatively to problem solve and make products even better. At Lowerhouse Junior, we have an understanding of the diversity of the world and the importance of exposing our pupils to a wide range of products that can inspire their curiosity and creativity, as well as the thought-processes involved in creating such products. Through this exposure, children take on the role of developer, evaluator and that of a critique, exploring how products can be developed or adapted for different users as well as

creating and testing prototypes to give purpose to projects. Children need a hands on approach that also gives access to other areas of the curriculum such as Mathematics, Science, Engineering, Computing and Art. Skills and techniques developed through Design and Technology are of great importance in our everchanging technological world to ensure that children are equipped for the next stages in their lives.

### **Implementation**

Our Design and Technology curriculum is implemented through a variety of different projects over the children's time at Lowerhouse Junior. In addition to our teaching and learning, we provide a Design and technology based after school clubs including; cooking.

Children will complete 3 projects a year, either having one lesson a week or a block to complete each project so children are fully immersed in the design-make-evaluate process.

Children are given a variety of real life products to explore in great detail, expanding their knowledge of how they look and work, allowing children to evaluate products against their target market and purpose.

For each project, children follow the design-make and evaluate sequence, allowing children time to reflect upon their design and products and think of ways that they could be improved or adapted. Teachers support and model increasingly progressive evaluative skills to enable children to create products of a high-quality throughout school. Children are given a design brief to put the need for the product in context. Where possible, teachers ensure that the brief is linked to another area of their learning or has relevance to the children to inspire their imagination and eagerness to create and problem solve.

Safety is explained and modelled at the start of and throughout each product including food hygiene instructions.

### **Impact**

As a year 6 Designer and Technologist, transitioning to secondary school, we aspire that pupils will have gained knowledge and understanding of different skills and techniques required to problem-solve by designing and creating a variety of products using a safe approach. They will have an understanding of the cross curricular elements within the subject and the importance of skills learnt in other areas of the curriculum and how they aid the design and make process, as well as how these techniques and skills will aid them in future life and learning.