Design and Technology

"I loved making my character pounce on my monster moving picture!" Y4

"I like the creative parts of what we do – putting in my own details and trying things out. I like using and expanding my skills to make them even better." Y5

Design and Technology is an inspiring, rigorous and practical subject. It encourages children to learn to think and intervene creatively to solve problems both as individuals and as members of a team.

Intent

At Uplands, we encourage children to use their creativity and imagination, to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. Wherever possible, we aim to link work to other disciplines such as maths, science, English, computing and art. The children are also given opportunities to reflect upon and evaluate past and present design technology, its uses and its effectiveness and are encouraged to become innovators and risk-takers.

Implementation.

Through a variety of creative and practical activities, we teach the knowledge, understanding and skills needed to engage in an iterative process of designing and making. The children work in a range of relevant contexts (for example home, school, leisure, culture, enterprise, industry and the wider environment). Design and Technology focussed learning is characterised by our children being taught to design, make, evaluate and apply their technical knowledge but prior to this, they need hands-on experience investigating and evaluating existing products followed by focused tasks that allow them to develop and practise the new skills they will need to apply in their final project.

Investigative and Evaluative Activities (IEAs)

Children start by undertaking a series of investigative and evaluative activities. Through these, children investigate and evaluate existing products linked to the chosen project. They explore and compare e.g. fabrics, joining techniques, finishing techniques and fastenings used. Questioning is used to develop their understanding e.g. How many parts is it made from? What is it joined with? How is it finished? Why do you think these joining techniques have been chosen? How is it fastened? Who might use it and why? Finally, they will be expected to make annotated drawings of existing products, stating the user and purpose and label, if appropriate, the fabrics, fastenings and techniques used.

Focused Tasks (FTs)

The next stage in learning is for children to complete a series of focused tasks, allowing them to acquire and practise new skills. For example, they might investigate fabrics to determine which is best for the purpose of the product they are creating.

Design, Make and Evaluate Assignment (DMEA)

In this final stage, supported by the teacher, children create a design brief set within a context which is authentic and meaningful. They discuss the intended user, purpose and appeal of their product and create a set of design criteria. They will be expected to sketch and annotate a range of possible ideas, constantly encouraging creative thinking. They then produce mock-ups and prototypes of their chosen product.

The next step is to plan the main stages of making e.g. using a flowchart or storyboard. Children assemble their product using their existing knowledge, skills and understanding from IEAs and FT and encouraged to think about the aesthetics and quality finish of their product.

The children are supported to evaluate as the process is undertaken as well as the final product in relation to the design brief and criteria. Their product should be tested by the intended user and for its purpose and others' views sought to help with identifying possible improvements. Key skills and knowledge for Design and Technology have been mapped across the school to ensure progression between year groups. The context for the children's work is also well considered and children learn about real life structures and the purpose of specific examples, as well as developing their skills throughout the programme of study. Design and technology lessons are often taught as a block so that children's learning is focused throughout each unit of work. In addition, children are expected to know and use technical vocabulary relevant to a given project as well as draw on prior experience and so develop their repertoire of technical skills.

Impact

We ensure our children

- 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 and 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. Children will design and make a range of products. A good quality finish will be expected in all design and activities made appropriate to the age and ability of the child.

Our children learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

Should you wish to know more about our Design and Technology curriculum, please look at our long term maps and skills progression document which can be found on our website in the curriculum section.