Curriculum Intent for Design and Technology

'We are artists and designers'

We have learned from our families that West Leigh children have gone on to become designers and engineers. We want each of our children to develop a passion for D & T and to be given the best opportunities to apply these skills in their future lives. We ensure that SEND and vulnerable pupils are fully included in Design Technology through careful scaffolding, adaptive resources, flexible outcomes and targeted adult support, enabling all pupils to participate meaningfully and achieve success.

At West Leigh we choose to teach D & T within our bespoke Connected Curriculum. Year groups relate the chosen projects to their topics in order to ensure that learning has greater purpose and is better secured. Our lessons are sequenced as part of a project where children are challenged to design and produce a specific product across a number of weeks. The objectives for these lessons have been created using the National Curriculum Programme of Study as a starting point, but with us then raising the bar to reflect our high aspirations.

We focus on inspiring and challenging our children through carefully planned tasks, which require a variety of tools and skills; these include cooking, woodwork, measuring, cutting, sewing and weaving, joining, electrical circuits and programming. We are mindful to provide our most able pupils with additional opportunities to deepen their learning through specialist clubs and projects.

As children progress through West Leigh, they learn, build upon and apply the full range of skills required in any production process. By the time they leave us in Year 6, our children have learned to:

- ✓ analyse design briefs to identify what their product must do to succeed.
- ✓ research products that already exist and learn from them to inform their own ideas.
- ✓ create a range of designs, which they evaluate before selecting and producing a final design.
- ✓ develop and refine confidence with specific tools and production techniques.
- ✓ enhance the iterative design process by implementing continuous evaluation.
- ✓ make the product (prototype) using the required skills and evaluate progress to identify further ways to improve.
- ✓ undertake a final evaluation to reflect on what worked and what they could do to improve the process; this often includes consideration of 'real world' production.

Each year group uses our Connected Curriculum medium term plan as a starting point for their lessons. From this, weekly plans are created by the teachers in their year groups (usually with the help of the D & T subject leader) to ensure that the learning will be accessible and challenging to all. A vocabulary list has been created for staff with the intent of helping children explain their learning with greater confidence and clarity.

'We are problem solvers'

Year 3:

Children joining us in Year 3 develop basic strengthening techniques by folding and reinforcing card structures when creating Stone Age shelters designed to withstand wind and rain. This builds on skills introduced in the infant school and extends them by placing the outcome in a real-world context, as well as incorporating additional features to improve resistance to natural elements. These skills are developed further in Year 5, where pupils are required to strengthen structures made from a combination of wood and card.

Children learn stitching skills to create a purse for a Greek God. These skills are picked up in Year 6 where a wider range of techniques is required to achieve different shapes and effects.

Finally, in Year 3, children design and make a pneumatic toy, developing skills in designing for a purpose, measuring and cutting accurately, assembling components and safely using air pressure to create movement. They begin to think about how to create movement using materials, readying them for designing and making cam toys in Year 5.

Year 4:

In Year 4, children further develop their understanding of strengthening complex structures, with increased challenge through the introduction of pyramid structures. They are required to apply mathematical skills as they design accurate nets and test their finished models for strength and durability.

During the summer term, the Year 4 project links closely with science learning as pupils incorporate electrical components to make their rides move and light up. This fairground project is informed by research carried out at a local amusement park and builds on skills developed in Year 3. The rides are constructed from card and must be carefully strengthened to support the electrical components. This prepares them well for Year 5, when they progress to even more challenging projects, further advancing their understanding of programming and control systems.

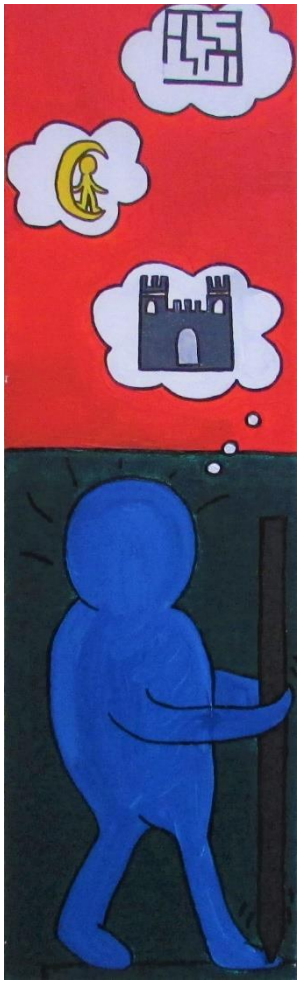
Children begin their cooking projects by preparing a simple dish from a European country, considering the seasonality and origins of ingredients. This builds on knowledge gained in Key Stage 1, where pupils design and make healthy, nutritious snacks. As minimal equipment is required at this stage, learning can focus more closely on developing safe and hygienic food preparation skills. In Year 5, this learning is extended further as pupils are introduced to a wider range of food preparation and cooking techniques.

Year 5:

Children in Year 5 begin with an extension to mechanisms by using cams to move parts of a toy which is an extension on Year 3's pneumatic skills. This project builds upon the structure and reinforcement work in Years 3 and 4 as structures made from wood and card are used.

Year 5 children are challenged to create weather-controlled flood gates with an introduction to computer programming skills. These projects are challenging to programme due to their variable nature and use of sensors, but also require intricate building structures with the Lego WeDo kits. When children reach Year 6, they use a range of programming programmes to control a variety of products.

'We are creative thinkers'



The final project in Year 5 introduces a broader range of cooking skills, including food preparation, cooking and serving. This also builds on the food safety and preparation learning developed in Year 4. Pupils learn to creatively design and make healthy, savoury dishes linked to their learning about chocolate.

Year 6:

In Year 6, pupils create puppets using a range of sewing techniques first introduced in Year 3. As older learners, they are able to apply a wider variety of stitches and construction methods to create detailed 3D effects and secure joins.

Year 6 pupils also programme both real and imaginary products, such as a LEGO lift or an imaginative banana crane set in the Amazon rainforest, using a range of applications. This project draws together learning from previous years, requiring pupils to adapt to different platforms, input methods and programming commands.

The final Year 6 project, the Quiz Board, brings together a wide range of skills developed throughout pupils' time at West Leigh, including accurate measuring and cutting, constructing and reinforcing structures and creating electrical circuits, with opportunities to incorporate programmable components.