

Design and Technology

Intent

The Design and technology curriculum at Oak Lodge aims to inspire pupils to be innovative and creative thinkers who have an appreciation for the product design cycle through ideation, creation and evaluation. We want pupils to develop the confidence to take risks, through drafting design concepts, modelling, testing and to be reflective learners who evaluate their work and the work of others. Through our scheme of work, we aim to build an awareness of the impact of design and technology on our lives and encourage pupils to become resourceful, enterprising citizens who will have the skills to contribute to future design advancements. Our curriculum encourages pupils to be resourceful and consider sustainable resourcing wherever possible. Our Design and technology scheme of work enables pupils to meet the end of key stage attainment targets in the National curriculum and the aims also align with those in the National curriculum. EYFS units provide opportunities for pupils to work towards the Early Learning Goals.

Implementation

The National curriculum organises the Design and technology attainment targets under four subheadings: Design, Make, Evaluate, and Technical knowledge. We have taken these subheadings to be our primary strands:

- Design
- Make
- Evaluate
- Technical knowledge

Our Design and Technology curriculum has a clear progression of skills and knowledge within these strands and key areas across each year group. Our Progression of skills shows the skills and knowledge that are taught within each year group and how these skills develop to ensure that attainment targets are securely met by the end of each key stage. Each year group has different units planned for 5 half terms across the year. Year groups are given the option whether to block the unit or teach one lesson per week.

Cooking and nutrition is given a particular focus in the National curriculum and we have made these one of our six key areas that pupils revisit throughout their time in primary school:

- Cooking and nutrition
- Mechanisms/ Mechanical systems
- Structures
- Textiles
- Electrical systems (KS2 only)

Through our curriculum, pupils respond to design briefs and scenarios that require consideration of the needs of others, developing their skills in the six key areas. Each of our key areas follows the design process (design, make and evaluate) and has a particular theme and focus from the technical knowledge or cooking and nutrition section of the curriculum.

It is a spiral curriculum, with key areas revisited again and again with increasing complexity, allowing pupils to revisit and build on their previous learning. Lessons incorporate a range of teaching strategies from independent tasks, paired and group work including practical hands-on, computer-based and inventive tasks. This variety means that lessons are engaging and appeal to those with a variety of learning styles. We have a wide range of resources available and necessary tools and equipment are provided to ensure all teachers can teach the units effectively.

Differentiated guidance, through our chosen scheme, is available for every lesson to ensure that lessons can be accessed by all pupils and opportunities to stretch pupils' learning are available when required. Strong subject knowledge is vital for staff to be able to deliver a highly effective and robust Design and technology curriculum. Each unit of lessons includes multiple teacher videos to develop subject knowledge and support ongoing CPD. Every effort has been made to ensure that teachers feel supported to deliver lessons of a high standard that ensure pupil progression.

Impact

The impact of our curriculum is monitored through both formative and summative assessment opportunities. Each lesson includes guidance to support teachers in assessing pupils against the learning objectives. Teachers record children who have not met the objective in order to ensure gaps in learning are filled quickly. Furthermore, each unit has a unit quiz and knowledge catcher which can be used at the start and/or end of the unit.

After the implementation of our scheme, pupils should leave school equipped with a range of skills to enable them to succeed in their secondary education and be innovative and resourceful members of society.

The expected impact of following the Kapow Primary Design and technology scheme of work is that children will:

- Understand the functional and aesthetic properties of a range of materials and resources.
- Understand how to use and combine tools to carry out different processes for shaping, decorating, and manufacturing products.
- Build and apply a repertoire of skills, knowledge and understanding to produce high quality, innovative outcomes, including models, prototypes, and products to fulfil the needs of users, clients, and scenarios.
- Understand and apply the principles of healthy eating, diets, and recipes, including key processes, food groups and cooking equipment.
- Have an appreciation for key individuals, inventions, and events in history and of today that impact our world.
- Recognise where our decisions can impact the wider world in terms of community, social and environmental issues.
- Self-evaluate and reflect on learning at different stages and identify areas to improve.