



## Subject Discipline: Design Technology

### **Intent**

At Ranvilles Junior school, the Design and Technology Curriculum 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, and 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. It 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.

### **Implementation**

The design and technology curriculum is aspirational. It is biased and shaped to meet the individual, contextual and holistic needs of all pupils. Formative assessment is used constructively to secure ambitious objectives, supporting learners to maximise their abilities.

The design and technology National Curriculum outlines the three main stages of the design process: design, make and evaluate. Each stage of the design process is underpinned by technical knowledge that encompasses the contextual, historical, and technical understanding required to each stage. Pupils are taught this through engaging lessons that allow them to discover the work of others and experiment with their understanding prior to developing unique ideas that meet the design brief.

We have carefully crafted our spiral curriculum, which is designed for pupils to revisit learning through six key area projects each year. These are:

- Mechanisms / Mechanical systems
- Structures
- Textiles
- Electrical systems
- Digital world
- Cooking and nutrition

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 National Curriculum. Although the outcomes in each year group differ, key areas are revisited with increasing complexity, allowing pupils build on their previous learning and further develop their skills, knowledge, and ability. 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.

Teachers ensure that lessons can be accessed by all pupils through adaptation, supportive resources, and opportunities to stretch pupils' learning through questioning. Knowledge organisers for each unit support pupils in building a foundation of factual knowledge by encouraging recall of key facts, concepts, and vocabulary.

## **Impact**

Knowledge, built in the discipline of design technology, is utilised in the Ranvilles SMSC (Spiritual, Moral, Social and Cultural) 'Big Debate' at the end of a half term. The Big Debate connects key subject disciplines. Learners draw on the knowledge and skills explored in DT to: **S**equences ideas, **T**hink critically, **A**rticulate precisely, **R**espond respectfully and **S**ynthesise collaboratively. This process enables learners to positively push new boundaries in exploring the world. They also understand and appreciate the developmental knowledge and skills that can inspire lifelong creativity in design and technology.

The impact of our curriculum can be constantly monitored through both formative and summative assessment opportunities throughout and at the end of a unit of work. Children will be taught and assessed on not only knowledge but also the progression of skills in making and creating. Teachers will reflect on prior learning and use it to tailor their teaching to ensure all children make good progress against the assessment statements.

The expected impact of following Ranvilles DT curriculum 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, CAD, 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.
- ❖ Meet the end of key stage expectations outlined in the National curriculum for Design and technology.
- ❖ Meet the end of key stage expectations outlined in the National curriculum for Computing.

At the end of their time at Ranvilles, pupils should leave us equipped with a range of skills and the foundations of knowledge that is needed to enable them to succeed in further their DT education and be innovative and resourceful members of society that can develop, create, and evaluate their own innovative ideas with confidence.