

Design Technology at Whitehouse Primary School

Our DT curriculum prepares children to take part in the development of tomorrow's rapidly changing world. Creative thinking encourages children to make positive changes to their quality of life by becoming autonomous and inventive problem-solvers, both as individuals and as part of a team. IT enables them to identify needs and opportunities and to respond by developing ideas and eventually making products and systems.



Links with English and Maths

- Vocabulary
- Non-fiction writing
- Number
- Measures
- 2D and 3D shapes



Big Ideas

- **Evaluation:** Pupils will look at existing product and identify aspects which could be copied, modified or extended.
- **Development of Skills:** Pupils will practice skills in a variety of discipline including mechanical systems, building structures, textiles, computing, electrical systems as well as food and nutrition.
- **Design and Making:** Pupils will design and make products with real purposes showcasing deepening levels of skill.



Retrieval Practice

- **Knowledge organisers** for staff and governors to access
- **Low-stakes quizzes** for long term memory
- **Varied teaching and learning activities**
- Thoughtful **sequencing** of content
- Specific teaching of **vocabulary**



Content and Sequencing



All year groups carry out three units of Design Technology a year selecting three of the possible five contexts with coverage across the key stages ensuring all aspects of the NC are addressed. All year groups complete an additional Food and Nutrition unit as this particularly an area of concern for our school context in improving a healthy lifestyle. Linking with Food and Nutrition we also have access to the Phunky Foods programme which is taught across the school.

- **Year 1** Building upon the EYFS basic skills of using simple tools and construction kits pupils begin by looking at building a free standing structure. This unit of work will require time and a high level of adult direction when using tools, therefore when it comes to the design process time is limited; so the children will create a group end product or a set of instruments similar to each other. As their dexterity and fine motor skills develop, pupils will learn how to join materials and the skills required to stiffen and strengthen their simple models. Thus, at the end of the unit of work the children will create a unique end product as individuals. Pupils will next learn how to make a moving mechanism exploring existing products in detail. They will complete their first food unit learning how to carefully cut and chop fruit and vegetables using different techniques.
- **Year 2** Building on their knowledge from Year 1, the children will be focusing on 'Where does food come from?', looking into the different food groups and developing their cutting and chopping skills. In the Spring term, pupils build on their developing understanding of moving products to consider wheels and axles and looking at different options when making design decisions. Pupils will complete a textiles unit introducing a range of stitches to make a simple 3d product having produced templates in their prior learning.
- **Year 3** Pupils link their computing skills with design technology to make a computer controlled product. Pupils build their understanding of mechanical systems to look at levers and linkages. In the Summer term, pupils build on previous understanding of structures to create a frame structure employing previously learnt skills in joining and strengthening. In their food and nutrition unit pupils revisit chopping and cutting skills and look at some additional aspects such as grating to prepare a dish from the past.
- **Year 4** Pupils are introduced to pneumatics as they build on previous learning of mechanical systems. Pupils build on learning about electricity and simple circuits from Science to design a product which uses electricity and then revisit textiles to look at using the developing sewing skills to work with a range of fabrics and include fasteners. In food and nutrition pupils build on knowledge of biscuit making to make muffins and scones.
- **Year 5** Pupils will build upon skills from Lower KS2 to create a framed structure. They will be looking at structures of Temples from Ancient Greece, identifying strengths and weaknesses. In the Autumn term pupils will complete a textiles unit on the traditional methods of weaving that would have been used by the Anglo-Saxons. Pupils once again bring together their designing and making with their computing knowledge to make a product using the micro bit system requiring understanding of coding. In food and nutrition pupils discover the technicalities of bread making.
- **Year 6** Pupils continue to use their understanding of electrical circuits to produce more complex products. In the Summer term, pupils will complete a food and nutrition unit of work celebrating culture and seasonality.

Progress

Units of work are carefully **sequenced** so **prior knowledge** and concepts are built upon

Regular **reflection** opportunities and teacher **assessment** for learning ensures gaps are filled

Effective **questioning** and **higher order thinking** features in every level

Progress and **attainment** within units is recorded and **shared** with all teaching staff

Opportunity for **revisiting content** or **apply** learning at **greater depth**



Support

For staff:

- National Curriculum
- Knowledge Organisers – from the DT association.
- Shared Area resources
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For Pupils:

- Ambitious targets for all pupils
- Quality first planning and teaching in first instance to meet all needs
- Guidance from any individual support plans used when meeting any specific needs
- Texts/ resources chosen which are accessible for pupils

