Design & Technology

Whole-school progression linked to our long-term plan

Intent

Our DT curriculum develops pupils as creative, capable designers and makers. Through purposeful projects, pupils learn to understand a user and purpose, develop and communicate ideas, select materials and techniques, make products safely, and evaluate how well their products meet the brief.

The long-term plan gives pupils opportunities to revisit key areas—structures, mechanisms, textiles and food—in different contexts. As pupils move through the school, they build on earlier experiences and apply skills with increasing accuracy, understanding and independence.

Progression through our long-term plan

Year	Projects from our LTP	How knowledge and skills develop
Year 1	Windmills: experiment with different sails; design for Peppa Pig. Bridges: make a freestanding structure for the King, for people or cars to cross.	Explore how materials can be shaped and joined. Begin to understand that a product has a user and purpose. Test simple ideas and talk about what works.
Year 2	Fruit and vegetable preparation: make a smoothie for a Year 1 child. Sliders and levers: make a Christmas card for family. Textiles: make a hand puppet for an FS child using templates and joining techniques.	Build practical confidence with food preparation and simple mechanisms. Begin to use templates and joining techniques. Make choices linked to the user and purpose.
Year 3	Shell structures (including CAD): design packaging to protect chocolate for a family member. Textiles: turn a 2D shape into a 3D purse, wallet or pencil case.	Build on early construction by considering how a shell structure protects a product. Use CAD as part of the packaging project. Develop textile skills by shaping and joining material to create a 3D product.
Year 4	Levers and linkages: make a mechanical poster for a Year 1 child. Programming and control: use a micro:bit to create a counter and a cardboard carrier. Food: make a sandwich for a nursery child.	Apply knowledge of simple mechanisms in a product with a teaching purpose. Introduce programming and control through a practical context. Develop knowledge of a healthy and varied diet and food preparation.
Year 5	Combine frame structures with mechanical systems (pulleys, levers and gears): make a moving toy for a nursery child. Textiles and systems: make a reflective belt for Walkley Litter Pickers.	Combine areas of learning rather than using them in isolation. Apply structural and mechanical knowledge to create movement. Use textile and systems knowledge to design for safety and a real community user.
Year 6	Textiles: combine different fabric shapes to make a cuddly toy based on a Year 2 child's drawing, to support transition into Year 3. Food: make savoury scones for a shop, considering culture, seasonality and using a heat source.	Refine textile construction by combining fabric shapes to make a more developed product. Apply food and nutrition knowledge with greater independence, including safe use of a heat source and consideration of seasonality.

The progression we want pupils to experience

- **Designing for a user and purpose.** In the LTP, briefs identify a product, user and purpose—from a windmill for Peppa Pig (Y1), to packaging to protect chocolate (Y3), a mechanical poster for a younger child (Y4), and a reflective belt for local litter pickers (Y5). Pupils increasingly make and explain choices that meet the brief.

- **Structures and mechanisms.** Pupils begin by exploring sails and freestanding bridges (Y1), then sliders and levers (Y2). They move on to protective shell structures and CAD (Y3), levers and linkages (Y4), and combining frame structures with pulleys, levers and gears (Y5).
- **Textiles.** Pupils move from templates and joining techniques for a hand puppet (Y2), to turning a 2D shape into a 3D case (Y3), using textiles and systems for a reflective belt (Y5), and combining different fabric shapes for a cuddly toy (Y6).
- **Food.** Pupils move from preparing fruit and vegetables for a smoothie (Y2), to making a sandwich while considering a healthy and varied diet (Y4), and making savoury scones in Y6, including culture, seasonality and use of a heat source.

How we secure strong foundations

- **Teach and model the basics.** Explicitly demonstrate how to handle materials, use tools and equipment safely, and practise techniques before pupils use them in a product.
- **Build vocabulary and oracy.** Teach and revisit words linked to each project—for example sail, stable, structure, shell, lever, linkage, mechanism, template, join, fabric, nutrition and evaluate. Pupils explain their choices and describe what they would improve.
- **Revisit knowledge in new contexts.** Return to structures, mechanisms, textiles and food across the LTP so pupils can connect new learning to previous projects and apply familiar skills in a different way.
- **Give time to practise and improve.** Use samples, prototypes and testing so pupils can spot problems, make changes and improve the quality and function of their products.
- **Check learning as pupils work.** Use questioning, observation, discussion and evaluation to check what pupils understand and can do. Adapt modelling and support where a skill or concept is not secure.
- **Make the learning accessible.** Adapt tools, materials, instructions and recording where needed, while keeping the design purpose and important learning clear for all pupils.