

## Working Together, Learning Together, Growing Together

**Friendship, Honesty, Perseverance, Positivity, Respect**

### Design and Technology Curriculum

#### Our Curriculum Intent

Our design and technology curriculum is based upon the National Curriculum Programme of Study and the Kapow Primary Design and Technology scheme of work, as well as the TT Education Progression in Design and Technology document. In order to further personalise our design and technology curriculum, we have considered how our pupils enjoy learning and what they enjoy learning about.

Good design and technology teaching at Whitmore should include:

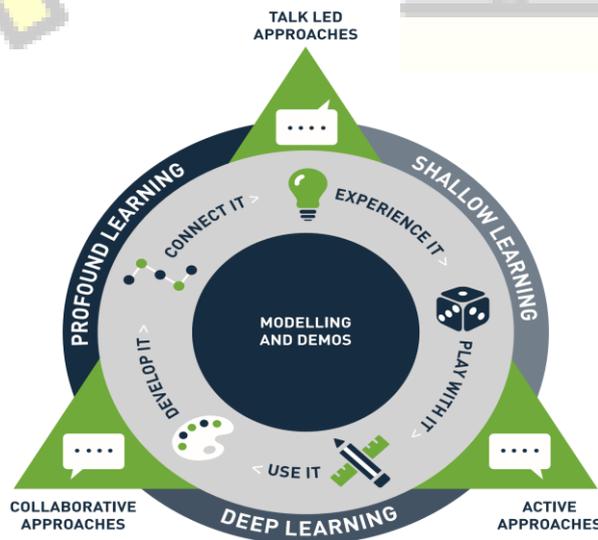
- opportunities for speaking and listening;
- high expectations of pupils;
- a suitable level of challenge so children can improve their confidence and resilience;
- a mixture of activity types so children can improve their attention and focus;
- chances to become independent learners;
- use of TT Education’s ‘Path to Success’ approach.

#### National Curriculum Purpose of Study

Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others’ needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

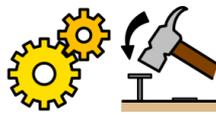
#### The Path to Success

The path to success is a way of planning teaching sequences created by TT Education, and we have decided to adopt it as part of our design and technology curriculum.



#### Stage 1: Experience it

Pupils need **rich experiences** which they can relate to in order to support them in developing a particular skill set. For example, how can you expect a pupil to use relative clauses in a newspaper report if they have never really experienced this before in any type of meaningful context? The challenge for us as teachers is to find a way to replicate this meaningful experience and practical application in the classroom.



**“Hook, Experience, Context and Purpose”** We ask teachers to think back to the last unit or topic they taught and then to consider the four elements of the mantra. What was the hook you used to engage, inspire and excite your pupils? What experiences did pupils bring to the activity, or how were you able to replicate experiences to make the learning link to the real world? Did you choose a context which was relevant and did all the pupils have a clear purpose for their learning, or was it simply ‘complete the activities on page 10’?

**Stage 2: Play with it**

This refers to the **Gamification of Learning**. The power of playing short burst games to practise key skills on a daily basis should not be underestimated. Not only do they act as a hook to excite, engage and challenge the pupils but they also support pupils in developing fluency in a particular skill: procedural efficiency alongside conceptual understanding.

**Stage 3: Use It**

Once pupils have experienced a particular skill and had an opportunity to play with it in order to fully assimilate the technique, they then move on to use it in context. Practical application in context is key to successful outcomes for pupils.

**“Tell me and I’ll forget; show me and I may remember; involve me and I’ll understand.”** Chinese proverb

**Stage 4: Develop it**

Pupils continue to develop the skill in context. It is absolutely crucial that all adults within the classroom, and within the school at large, position themselves alongside the pupils as learners, actively engaging in the learning process. High quality modelling and demonstration should be underpinned by **an active, talk-led, collaborative learning climate**, in which pupils move from learners to teachers. If a pupil can teach a particular skill, it means they must have learnt it and are more likely to remember it. As practitioners, we should be aiming to move all our pupils into becoming teachers. If a pupil can confidently demonstrate the level of understanding necessary for them to be able to explain and teach a concept, idea or approach to another pupil, then in doing so they are demonstrating that their initial learning has been internalised and embedded. By this stage they are demonstrating a move from shallow surface-level learning to deeper learning and understanding.

**Step 5: Connect It**

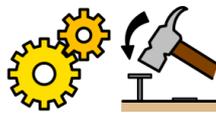
This refers to pupils making connections across the curriculum. With a deeper understanding, pupils will begin to make links and connections in terms of how they could apply the skill or concept they have just learnt across the curriculum and in the wider world. Making these connections and exploring possible connections moves the pupil from deep learning into profound learning, which will stay with them forever.

This circular approach then repeats as new skills, concepts and ideas are added. This whole approach is underpinned by talk-led, active and collaborative approaches, which provide the foundation for success.

**What does the Path to Success look like in Design and Technology?**

This diagram shows some ways in which the Path to Success can be incorporated into a teaching sequence in Design and Technology. This is not a comprehensive list of the ideas that we use, but some possible examples of activities that may fit into our sequences of teaching.





## Combining the National Curriculum and the Path to Success

Using the National Curriculum and The Path to Success approach, our sequences of lessons (and design and technology curriculum as a whole) will give the opportunity for pupils to:

- look at examples of finished products, and be able to analyse and deconstruct them
- learn and apply key vocabulary through quality speaking and listening activities;
- use the knowledge they have learnt to create and develop designs for their own products;
- create products of their own;
- use a variety of materials and tools safely and skilfully;
- evaluate their products against a set of design criteria;
- understand that the design process is iterative, and that 'real-life' products are constantly being improved and altered;
- learn about how the skills they have learnt could be used in the wider curriculum and world e.g. potential careers.

## Curriculum Implementation

Using the TT Education objectives and the National Curriculum to help us, we have created a set of disciplinary knowledge – these are skills that our children need in order to be successful when designing and creating their products. These disciplinary skills are generic, in that they could potentially be applied to any unit of design and technology teaching. In order to help our staff plan and teach their lessons more effectively, we have chosen to map these skills to the units we teach. In order to ensure that all stages of the design process are taught, we have divided these skills into three strands: design, make and evaluate. We also have a food and cooking skills strand, so that our staff are able to ensure that children are using age-appropriate skills when preparing dishes.

Using the Kapow Primary scheme of work, we have also created a bank of technical knowledge for each area of design and technology. The strands that we have organised our technical knowledge into are: food and cooking, structures, mechanisms and mechanical systems, electrical systems and textiles. These are specific to each unit, and ensure that our children learn the key knowledge about each strand, or area, of design and technology.

All of our disciplinary skills and technical knowledge can be found in our [design and technology progression document](#). The term-by-term mapping of these objectives can be found in the [design and technology overview document](#).

### Prior Learning

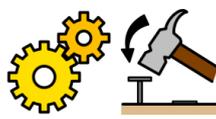
Every lesson includes a prior learning activity at the start of the lesson; at the start of each unit, explicit links are made to previous design and technology learning so that children are able to make links to their already established schemas. Prior learning allows teachers to check that previously taught knowledge and skills have been retained by the children. It also allows children to 'activate' their knowledge, thus giving them a 'hook' to attach their new learning to.

### Vocabulary

Each unit has a selection of key vocabulary that children are expected to know and use in their speaking and writing. These words are key words that relate to the unit, but have also been chosen to help enhance children's wider knowledge of the world and increase their cultural capital. We have also used the TT Education vocabulary lists to help us create year group sets of vocabulary that children can use for talking about design and technology. In design and technology lessons, all the key vocabulary that children need is easily accessible on their knowledge organisers.

### Visuals

Using well-designed visuals in the classroom helps children's retention of knowledge and improves their engagement with their learning. It is for these reasons that we have chosen to use symbols from Widgeo to represent every unit-specific piece of vocabulary, and the vocabulary for talking and locating features. We have identified our children's speech and language as a weakness across the school, so the strong and consistent use of visuals will enable our children to use more advanced vocabulary in their speaking and writing. We also use colour coding as a visual cue for children on our knowledge organisers – the green colour scheme matches the colour of the design and technology journals that each class has.



## Knowledge Organisers

Every design and technology unit has a single-page knowledge organiser. On these, the Super 6 take pride of place, next to a place where the children are able to RAG-rate how well they have done for that objective. The key vocabulary for the unit is clearly labeled, alongside the Widgeo symbol that corresponds to that piece of vocabulary. In addition, each design and technology knowledge organiser has pictures, diagrams and key questions for the children to consider. Our current set of design and technology organisers can be found [here](#).

## Curriculum Impact

### Assessment and the 'Super 6'



Each unit has six objectives, and these are a combination of disciplinary skills and technical knowledge. These objectives are shared with the children throughout their learning, and form the basis of our planning and teaching. At the end of each unit, the children will assess themselves against their six objectives, so that they are able to feel an ownership and responsibility for their own learning. Children should know, or be able to easily check, their 'Super 6' for each design and technology unit using their knowledge organiser.

Teachers record assessment using the Super 6 assessment grids on Insight (our assessment tracking system). At the end of each term, teachers will RAG-rate the objectives they have taught, and decide if children are currently one of four standards. The standards are:

- 0 Taught, but not yet understood
- 1 Some evidence, but not yet secure
- 2 Objective secured
- 3 Working at greater depth

This rating of objectives will be used to inform and enhance future planning and teaching. The design and technology subject lead will also look at the termly assessments, and offer appropriate advice to teachers where necessary. At the end of each year, a final assessment for the academic year is added onto Insight. Teachers use their termly data to help them decide a final judgment for each child's attainment – children are assessed as working at, above, or below age-related expectations.

Where termly aims have not been achieved, teaching is adapted in subsequent terms to ensure that children do not miss vital knowledge and skills.