



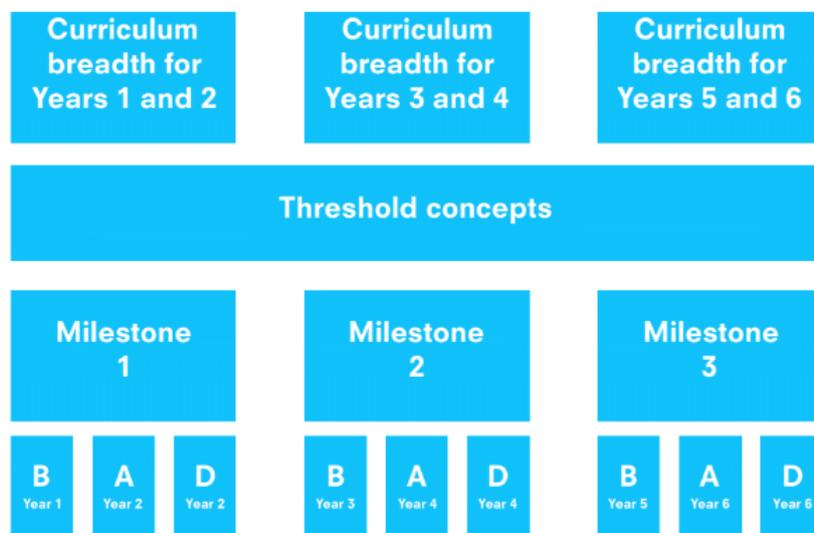
## Vision

Our Design and Technology curriculum ensures that children are designers and creators. They will have:

- Significant levels of originality and the willingness to take creative risks to produce innovative ideas and prototypes.
- An excellent attitude to learning and independent working.
- The ability to use time efficiently and work constructively and productively with others.
- The ability to carry out thorough research, show initiative and ask questions to develop an exceptionally detailed knowledge of users' needs.
- The ability to act as responsible designers and makers, working ethically, using finite materials carefully and working safely.
- A thorough knowledge of which tools, equipment and materials to use to make their products.
- The ability to apply mathematical knowledge.
- The ability to manage risks exceptionally well to manufacture products safely and hygienically.
- A passion for the subject and knowledge of, up-to-date technological innovations in materials, products and systems.

## Intent

The curriculum is underpinned by the three drivers: a clear list of the breadth of topics that will be covered; the 'threshold concepts' pupils should understand; criteria for progression within the threshold concepts and criteria for depth of understanding.



The curriculum is carefully planned and sequenced to ensure that children develop a secure knowledge base through opportunities to retrieve key knowledge. A simple sequence of retrieval practise: fluency (basic questions), reasoning/problem solving (advanced questions) and elaboration (deeper questions) should exist in all learning.

*The Breadth of study, Threshold Concepts, Milestones for Progression and the Long Term Learning Structure for Computing are included within this document.*

## **Implementation**

Teaching of design and technology follows a design process alongside the opportunities to learn and apply practical skills.

Our D&T curriculum design is based on evidence from cognitive science; three main principles underpin it:

1) learning is most effective with spaced repetition.

2) Interleaving helps pupils to discriminate between topics and aids long-term retention.

3) Retrieval of previously learned content is frequent and regular, which increases both storage and retrieval strength. In addition to the three principles we also understand that learning is invisible in the short-term and that sustained mastery takes time. Some of our content is subject specific, whilst other content is combined in a cross-curricular approach. Continuous provision, in the form of daily routines, replaces the teaching of some aspects of the curriculum and, in other cases, provides retrieval practise for previously learned content

## **Impact**

As designers and creators, at the end of each Milestone, the vast majority of pupils have sustained mastery of the content, that is, they remember it all and are fluent in it; some pupils have a greater depth of understanding.