Bearwood Primary and Nursery School
Maths Curriculum Rationale

Our maths curriculum is under-pinned by four key principles:

1) **Knowledge rich**
With the aim of children knowing more and remembering more, a rich and broad body of core knowledge is clearly and meticulously specified and is selected for its power in developing expertise in the subject.
The specific knowledge children should remember is precisely defined. Skills are understood to be domain-specific and their development is intrinsically linked with acquisition of knowledge. For example, for students to analyse, solve problems or think critically in a subject, they need a rich knowledge of the area of the subject they are required to analyse, solve problems in, or think critically about.

2) **Academically ambitious**
The content selected is ambitious in order to challenge the most able and provide a rich and empowering education to all. The extent of knowledge provides a broad and deep grounding in subjects, so that students have a framework within which they can situate future learning.

3) **Logically sequenced**
We talk to the children about "sticky knowledge". This is knowledge which attaches to pre-existing knowledge, creating connections in long-term memory and forms increasingly complex mental models (or 'schemata'). In other words, children learn new ideas by reference to ideas they already know. Therefore, within units and across the whole curriculum, knowledge is positioned to build on what has come before. The curriculum sets out a logical journey that students need to embark on to get better at a subject. In this sense, 'the curriculum is the progression model'; It is the selection and organisation of knowledge to form a coherent model of intended progression in the subject. As children progress through the curriculum, they grapple with greater complexity and develop both increasing conceptual understanding and disciplinary competency. This does not mean the curriculum always starts with the 'easiest' knowledge, but with the most foundational or facilitating knowledge. The sequencing of content also aims to pre-empt and avoid common misconceptions.

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4) **Designed to support memory**
Learning is a change in long-term memory. The curriculum is structured to help students remember, not simply encounter, the core knowledge they learn. In order to disrupt the forgetting curve, knowledge from previous units is interleaved in future units and revisited through frequent low-stakes retrieval practice. The points at which students apply knowledge from existing and previous units are explicitly stated.

Children who know more and remember more, do more!

What does a typical maths lesson look like?

A typical maths lesson is made up of 6 parts, and we start with our “remember” task, where the children will retrieve maths, they have previously learnt.

Next, the new learning is introduced, and we will model many examples to encourage and support fluency. After modelling, the children take part in a “talk task” and this is to encourage children to verbalise their maths thinking in full sentences.

Once the children have talked through their mathematical thinking, the learning will be developed by the teacher demonstrating further strategies, and the children will then work independently to become fluent.

Finally, there will be plenty of opportunities to deepen understanding through problem solving and reasoning.