

Underpinning principles of *I Get Maths*

I get maths is underpinned by educational research. Below is a summary of the key principles that underpin our programme:

Deep understanding (Boaler)

Understanding how and why methods and strategies work enables children to connect, use and apply them in any context: known as *generalisation*. Regardless of age or ability, children need opportunities to pose, solve and investigate challenging problems and learn how to think and reason *through* them.

Relational understanding (Skemp)

Children need to relate mathematical concepts so they can build on their prior learning and make connections to other areas of maths and other subjects. In the short term, it takes more time to learn this way because children have to understand the concepts *and* the connections. However, in the long run, understanding concepts relationally makes them easier to use and apply because each new concept relates back to and connects with an overall conceptual structure for maths: a *schema*.

Building a more complete schema gives children a feeling of greater confidence in their ability to find new ways to solve problems because their understanding is more adaptable to new tasks. Their awareness of possibilities also enlarges so the process of learning and inquiry continues and becomes rewarding intrinsically.

Growth mindset (Dweck)

In the growth mindset children understand mathematical intelligence is not fixed but can be developed and *grown* i.e. I do not understand this area of mathematics **yet**. Children learn to value new learning and challenge above *looking smart* so are prepared to take risks by seeking out and tackling challenging mathematical questions and problems. Challenge, appropriate to age and ability, provides children with the opportunity to persist in the face of setbacks; learn from mistakes and take on board constructive feedback.