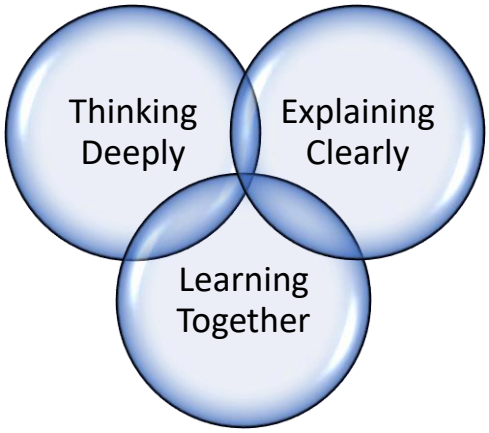
Exe Valley Federation Maths Team

Principles for Teaching and Learning



"Thinking is a necessary precursor to learning, and if students are not thinking, they are not learning."

Peter Liljedahl

We know that all schools, classes and cohorts are different and so while structures may vary across the Federation, we would expect the following principles to be part of most lessons taught, across every school.

1) **Teachers make deliberate decisions about how tasks promote thinking.**
   Tasks should be chosen or adapted to encourage reasoning, problem-solving, and exploration of mathematical ideas—not just correct answers.

2) **Children are expected to explain their thinking to others through discussion.**
   They should regularly talk with partners or in groups to clearly articulate their reasoning, using the sentence stems provided below.

3) **From Year 2 onwards, children are expected to record their thinking in writing.**
   They should use the same sentence stems when writing to explain their mathematical thinking.

4) **Children are expected to represent their thinking in different ways**.
   This may include drawing, selecting and explaining appropriate visual models such as bar models, part-whole models, number lines, area models, and more.

5) **Children develop fluency by regularly practising known mathematical facts.**
   This includes number bonds, times tables, and other foundational number facts.

To support these five points, children should be taught, encouraged and rewarded to use the following sentence stems:

- *My first thought is…*
- *I notice…*
- *I know that…*
- *I know this because…*
- *I know… which means that…*
- *This is similar to… because…*
- *Something that is different is…*
- *Another way to show this is…*
- *I agree/disagree with…*
- *The important thing to notice here is…*
- *This shows me that…*
- *That can't be right because…*

It is suggested that an appropriate selection of these are on a permanent maths display in the classroom, for staff and children to refer to.