Meta Skills Development in Maths and Numeracy

Meta Skill 1:	Collaborating	Primary

Developed through:

Collaboration in maths can be a powerful way to approach problem-solving and learning. It allows pupils to share ideas, strategies, and insights, which can lead to a deeper understanding of mathematical concepts.

Here are a few ways collaboration can be effective in maths:

- Working on complex problems together can help to approach solutions from different perspectives. Each person might notice something the others missed, leading to a more well-rounded solution.
- Teaching or explaining mathematical ideas to others solidifies your own understanding. It helps identify gaps in knowledge and improves communication skills.
- Reviewing each other's work can help spot errors or inefficiencies in calculations, logic, or assumptions, fostering better accuracy.

Meta Skill 2:	Communicating	Primary

Developed through:

- Through a thinking classroom, pupils are encouraged to discuss their thought processes, ideas, and solutions. The goal is not just to find the right answer, but to understand *how* and *why* a solution works. This kind of communication helps deepen understanding and builds critical thinking skills.
- Discussions are fostered by the teacher by asking probing questions, encouraging pupils to explain their reasoning, and fostering a classroom culture where all ideas are welcomed.

Meta Skill 3:	Critical thinking	Primary

Developed through:

Critical thinking in maths is the process of actively analysing, evaluating, and using information to solve problems, understand concepts, and make decisions based on logical reasoning and evidence. It goes beyond memorisation or following steps to reach solutions; it involves questioning assumptions, exploring alternatives, and developing a deep understanding of the underlying principles.

Meta Skill 4:	Curiosity	Secondary

Developed through:

- Building a growth mindset by encouraging the idea that making mistakes is part of the learning process and a necessary step in exploring mathematical concepts. Curiosity thrives when pupils are not afraid to take risks and fail.

- Through exploring themes, maths uses real-world contexts, from sports and engineering to navigation and finance. Real-world connections make maths feel more meaningful and spark curiosity about how mathematics solves practical problems.

Meta Skill 5:	Sense Making	Secondary

Developed through:

- When pupils make sense of a concept, they understand it on a deeper level and are better able to apply it to new problems.
- Sense-making helps students retain mathematical concepts by connecting them to real-world situations, existing knowledge, and logical reasoning.
- Understanding the "why" behind math procedures builds confidence, as pupils are not just memorizing steps but understanding the rationale behind them.
- Sense-making helps build a strong foundation that prepares pupils for more advanced mathematical concepts, as they will already be comfortable with critical thinking and problem-solving.

Meta Skill 6:	Integrity	Secondary

Developed through:

- maintaining integrity ensures that pupil's work is trusted and valued by others.
- By committing to honest and accurate methods, you're forced to truly understand the problem and the process, which ultimately sharpens your critical thinking and problem-solving abilities.
- Mathematics is built on logical consistency and the integrity of its reasoning. Any false steps or shortcuts can break down the entire solution.