



EMTP 4 - Facilitate Meaningful Mathematical Discourse

Sumer Smith, Kentucky Center for Mathematics

1 EMTP 4 - Facilitate meaningful mathematical discourse.

2 Effective mathematics teaching engages students in purposeful discourse. NCTM defines
3 purposeful discourse as "discussion, verbal, visual, and written communication—to deepen
4 understanding, justify reasoning, develop mathematical language, and consider multiple
5 perspectives."

6 Discourse provides students the opportunity to share and justify their reasoning while learning from
7 their peers' perspectives. Whether in pairs, small groups, or whole-class discussions, productive
8 discourse fosters collaboration and critical thinking. Encouraging students to ask clarifying
9 questions—such as "Can you explain why you chose that strategy?" or "How does your method
10 connect to mine?"—helps them refine their understanding and engage more deeply in mathematical
11 reasoning. Teachers play a key role in modeling what this meaningful discourse looks, sounds, and
12 feels like, while empowering students to take ownership of their thinking.

13 When students compare problem-solving strategies, they often discover and make sense of more
14 effective or efficient approaches. Listening to and critiquing peers sharpens their reasoning and
15 encourages growth. Effective mathematical discourse doesn't happen by chance—it requires
16 careful planning. Teachers need to anticipate possible student responses, pose purposeful
17 questions, and thoughtfully select and sequence the student work to highlight during a
18 discussion. The goal is for every conversation to move learning forward and deepen students'
19 understanding. Mathematical discourse transforms classrooms into vibrant learning spaces. With
20 careful planning, teachers can craft opportunities for children to engage in meaningful mathematical





21 discourse and gain the confidence and skills to succeed in mathematics and beyond.

