EMTP 2 Implement Tasks That Promote Reasoning & Problem Solving

Effective teaching of mathematics engages students in solving and discussing tasks that promote mathematical reasoning and problem solving and allow multiple entry points and varied solution strategies.

NCTM (2014, p. 17)

> "What is critical is that a task provides students with the opportunity to engage actively in reasoning, sense making, and problem solving so that they develop a deep understanding of mathematics."

NCTM (2014, p. 20)

As a teacher I...

- challenge students with interesting, thought-provoking problems that build on and extend their current understandings.
- implement instructional tasks that can be approached in a variety of ways, using a range of tools and representations.
- provide time and resources for students to explore and figure things out on their own.
- encourage students to try different strategies to understand and solve problems.
- recognize that deeper learning happens through a sequence of engaging and meaningful tasks spread across multiple lessons.

so that my students...

- take responsibility for their own understanding of problems.
- explore different approaches and representations to make sense of and solve problems.
- keep trying to think through problems, even when they experience challenges.
- understand that other students may solve problems in different ways.
- discuss their thinking with classmates to compare strategies and learn from each other.

Adapted from NCTM (2014, p. 24)