Standards for Mathematical Practice

The Standards for Mathematical Practice (SMPs) describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. These practices rest on important "processes and proficiencies" with longstanding importance in mathematics education.

- 1. Make sense of problems and persevere in solving them.
- 2. Reason abstractly and quantitatively.
- 3. Construct viable arguments and critique the reasoning of others.
- 4. Model with mathematics.
- 5. Use appropriate tools strategically.
- 6. Attend to precision.
- 7. Look for and make use of structure.
- 8. Look for and express regularity in repeated reasoning.

Kentucky Department of Education (2019, p. 12)



These eight practices describe
the thinking processes, habits of
mind, and dispositions that
students need to develop a deep,
flexible, and enduring
understanding of mathematics.

Rutherford (2015, para. 3)



THE STANDARDS FOR MATHEMATICAL PRACTICE FRAMEWORK

KCM NUMERACY COUNTS

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MAKING SENSE

Students are engaging in this practice **EVERY DAY!**

THE LEAD ACTORS

Students use these
AVENUES OF THINKING
to make sense of and
solve problems.

THE SUPPORTING ACTORS

Students use these practices to **SUPPORT** their reasoning and **MAKE THINKING VISIBLE**.

MAKE SENSE OF PROBLEMS AND PERSEVERE IN SOLVING THEM **LOOK FOR AND REASON LOOK FOR AND EXPRESS ABSTRACTLY AND MAKE USE OF REGULARITY IN QUANTITATIVELY STRUCTURE REPEATED REASONING** CONSTRUCT **USE APPROPRIATE** VIABLE **ATTEND TO MODEL WITH TOOLS ARGUMENTS & PRECISION MATHEMATICS STRATEGICALLY CRITIQUE THE REASONING OF OTHERS** KCM NCA Resource Manual

Adapted from Kelemanik et al. (2016)