

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.

Kentucky Department of Education (2019, p. 12)

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.

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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

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.**

1

MAKE SENSE OF PROBLEMS AND
PERSEVERE IN SOLVING THEM

2

REASON
ABSTRACTLY AND
QUANTITATIVELY

7

LOOK FOR AND
MAKE USE OF
STRUCTURE

8

LOOK FOR AND
EXPRESS
REGULARITY IN
REPEATED
REASONING

3

CONSTRUCT
VIABLE
ARGUMENTS &
CRITIQUE THE
REASONING OF
OTHERS

4

MODEL WITH
MATHEMATICS

5

USE APPROPRIATE
TOOLS
STRATEGICALLY

6

ATTEND TO
PRECISION

