The Common Core State Standards for Mathematics:

Standards for Mathematical Practice

Encouraging the eight Mathematical Practices in students of all ages should be as much a goal of the mathematics curriculum as the learning of specific content.

Mathematics teachers must ensure students receive meaningful instruction that promotes reasoning and sense-making, self-efficacy, and an appreciation for the utility and beauty of mathematics, thus inspiring students to view the study of mathematics as a worthwhile pursuit. To realize this vision, the Common Core Standards emphasize eight Standards for Mathematical Practice (MP) that describe processes, proficiencies, and habits-of-mind that educators should develop in their students.

For More Information on Common Core State Standards
http://standardstoolkit.k12.hi.us

Mathematically Proficient Students

MP #1: Make sense of problems and persevere in solving them.

- explain the meaning of the problem to themselves and plan a solution pathway
- monitor their progress and change course if necessary

MP #2: Reason abstractly and quantitatively.

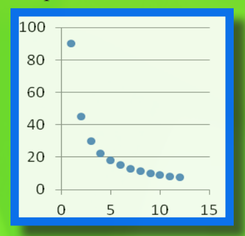
- select the appropriate quantities, variables and operations to represent a problem situation
- reason mathematically to manipulate the quantities and variables
- reflect upon their solutions in the context of the problem situation

MP #3: Construct viable arguments and critique the reasoning of others.

- clearly explain their mathematical thinking and justify their conclusions
- become skillful at listening to others and respond to others' thinking and reasoning

MP #4: Model with mathematics.

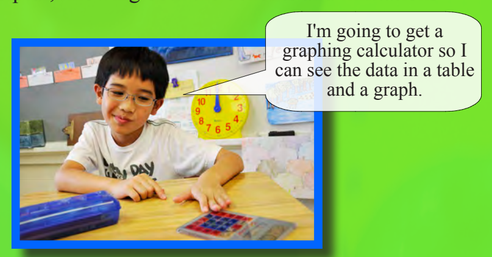
- investigate problems, situations and phenomena in everyday life
- create equations, expressions, tables and/or graphs to represent and describe the phenomenon



If x is my speed and y is the time it would take me to walk to school, then y = 90/x

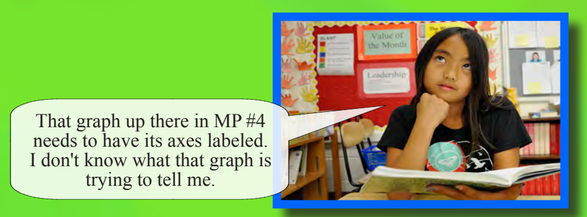
MP #5: Use appropriate tools strategically.

- develop sufficient familiarity with a variety of tools
- develop the capacity to decide when each tool is helpful, knowing both the benefits and limitations



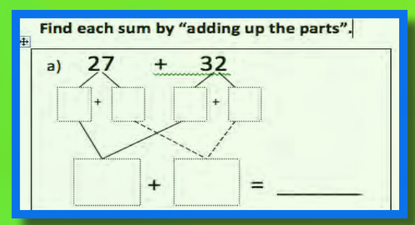
MP #6: Attend to precision.

- use clear definitions and state the meaning of the symbols, pictures or graphs that they use
- calculate accurately and efficiently



MP #7: Look for and make use of structure.

- look for and use patterns or structures in the base ten number system, in algebraic expressions and equations, and in geometric figures



MP #8: Look for and express regularity in repeated reasoning.

- apply repetitive actions in a few cases as a strategy for looking for patterns and structures (i.e., as a means to uncovering "structure" in MP #7).