Math Goals

• The major developmental themes for math.
  • Grades 1-4: Developing a sense of number & Arithmetic Facts
  • Grades 5-6: Consolidating procedural skills
  • Grades 7-9: Developing abstract thinking
  • Grades 10-12: Developing higher-level thinking (critical, analytical, synthetic, etc.)

• What do Students really Need to be Prepared for their Future Math Studies?
  1. Enthusiasm for learning math.
  2. Mathematical thinking
  3. Solid basic skills. This is a relatively short list (see below).

• The Necessary Basic Skills.
  These are the skills needed to be mastered by the end of...
  • Fourth Grade: Arithmetic facts learned “by heart”; Sense of Number.
  • Sixth Grade: All procedural skills, including: Fractions, Decimals, Measurement, Estimation. Vertical Arithmetic (long division, long multiplication, etc.)
  • Eighth Grade: Percents, Ratios, Basic algebra (not too much!), Area and Volume, Dimensional analysis (i.e., unit conversions).
  • Twelfth Grade: Algebra fundamentals, Cartesian geometry, Trig, Logs, Functions.

• But let’s not forget our “Biggest Goal”: Avoiding Math Trauma.
  • Being “math healthy” includes:
    • Being open to problem solving, puzzles, and trying to figure it out.
    • Determination to improve even if math is hard for you.
    • A curiosity to learn new things.
    • A desire to understand “why”.
    • A recognition that mistakes are a necessary part of learning math.
    • Being OK with confusion.