

# What are Core Mathematics Skills?

Difficulty with basic mathematics and computational skills may often be evident at a very young age. As preschoolers, children who struggle with math may have trouble identifying numbers, learning to count, and recalling simple addition facts. Elementary school students with math difficulties may seem to know math facts one day, only to forget them the next, or may have to go very slowly in completing math homework, as if they were learning to solve each problem for the first time. Many children struggle to learn core mathematics skills. Some students may be able to master simple calculations, but not be able to automatically apply these skills to higher-order mathematics, including algebra, geometry, statistics, or calculus.

**Children who struggle with mathematics typically have difficulty in one or more of the following three areas:**

- Math computation: The ability to do simple mathematical operations such as addition, subtraction, multiplication, and division.
- Math fluency: The capacity to automatically recall and apply math facts, formulae, and computations.
- Math concepts: Understanding mathematical concepts such as time, distance, geometry, grouping, sequencing, graphing, and mathematical relationships.

Learn more about these crucial skills for mathematics:

# Math Computation



Math computation is defined as the ability to calculate, or use a mathematical operation, to study quantity, structure, space, or change. Individuals with strong math computational skills are able to learn and retain math facts with greater ease, and apply calculation skills efficiently. Children who struggle with math computation may have difficulty solving basic math problems in their heads or struggle while working out complex math problems, even with the use of a calculator.

# Math Fluency



Math fluency is described as the ability to solve math problems in an effortless, efficient, and clear fashion, and takes into account the pace with which one can perform calculations. Math fluency enables students to automatically complete a mathematical task without having to figure out each step of the problem as if they were attempting it for the first time.

# Math Concepts



Math concepts allow students to understand the relationships between numbers and operations and to apply this knowledge to the real world. Individuals who understand mathematical concepts are often described as having a good “number sense.” Conceptual math underlies an understanding of higher order mathematics

and is a key component of sciences, statistics, and computer programming. Students who have difficulty with math concepts may find it problematic to do word problems because they cannot identify the crucial information needed to solve the problem. They may also experience difficulty understanding graphs, symbols, and higher-level mathematics.