Florida Common Core Mathematics Standards Raise the Bar

In 2010, Florida adopted a more rigorous set of academic standards to ensure that students are ready for college or the workforce when they graduate from our public schools. These standards, the Common Core State Standards in English Language Arts and Math, create higher expectations for our students. They challenge students to read critically, write extensively and solve real-world math problems at greater capacity, raising the bar for *all* students and resulting in a more valuable education. As Florida implements these new standards, it is important to understand how they will better prepare children for future academic and career challenges.

Higher Academic Standards in Math:

The Common Core State Standards for math are designed to ensure students fully understand the content of math: numbers, measurement, algebra, geometry, and the processes of math: problem solving, reasoning, and making connections. These are the fundamental math skills needed to succeed throughout elementary, middle and high school, college and beyond – regardless of career path. While the old standards focused on simply expecting students to work the problem, the new standards expect students to understand why the answer is the answer, and why there may be different ways to arrive at the correct answer. Students need to move beyond knowing how to plug numbers into a formula to arrive at the correct answer. They need to understand why the formula works, and show that they understand it. In order to do this, students must master early on the foundational skills of addition, subtraction, multiplication and division.

The implementation of Common Core State Standards began during the school year 2011-2012. Below are a few examples of how the Florida Common Core Math standards raise the bar for Florida students.

Comparison of past Florida Standards to Florida Common Core Mathematics Standards

Grade/Subject	**THEN –** The past Florida standards required students to:	**NOW –** The Florida Common Core Standards require students to:	**Communication for the General Public**
Elementary	Require kindergarten students to count to 20 out loud, in writing, and count to 20 using objects	Require kindergarten students to count to 100 by ones, and by tens.	The Common Core requires students to count to 100 by ones, and by tens (eg. 10, 20, 30, 40, etc), rather than simply counting to 20.
	Require 2nd graders to identify time to the	Require 1st graders to tell and write time in	The Common Core requires students to tell and write time to

	nearest hour and half hour	hours and half-hours using analog and digital clocks	the nearest hour and half hour in first grade while the past standards did not expect this skill to be mastered until second grade.
	Require 3rd graders to identify, describe, and apply division and multiplication as inverse operations	Require 3rd graders to fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers	The Common Core requires students to memorize times tables, and fluently multiply and divide within 100, while the past standards simply require that students apply division and multiplication regardless of the amount of time it takes to complete such task.
	Require 6th graders to multiply and divide fractions efficiently	Require 5th graders to multiply and divide fractions, and solve real world problems involving addition, subtraction, multiplication, and division of fractions	The Common Core requires 5th grade students to solve real world problems through multiplying and dividing fractions, while the past standards did not expect students to simply multiply and divide fractions until 6th grade.
Middle School	7th graders were expected to perform exponential operations with rational bases and whole number exponents.	6th graders are expected to write and evaluate numerical expressions involving whole-number exponents.	The Common Core Standard requires 6th grade students to write and solve expressions using whole-number exponents which is a year ahead of previous standards.
	7th graders were expected to express rational numbers as terminating or repeating decimals.	7th graders are expected to convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.	Common Core standards are specific as to what a 7th grader should be able to do and explain related to repeating and terminating decimals when using long division, while the past standards emphasize just "getting the answer."
Algebra I	Solve literal equations for a specific variable.	Rearrange formulas to highlight a quantity of interest using the same reasoning as in solving equations. For example, rearrange Ohm's Law V = IR to highlight the resistance, R.	The past standard was general requiring students to solve an equation for a specific variable (a letter in an equation that represents a value like length of a rectangle or radius of a circle). The Common Core standards describe the process of solving an equation for a specific variable as

			a method of highlighting that value. Students are usually capable of finding the area of a rectangle when given length and width. However, this standard requires students to find length of a rectangle when its width and area are given.
	As 9th graders, solve systems of linear equations in two and three variables using graphical, substitution, and elimination methods.	As 8th graders, solve systems of two linear equations in two variables algebraically and estimate solutions by graphing the equations. Solve simple cases by inspection. For example, $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6.	The past standard required students to solve systems of equations in 9th grade. The Common Core standards require 8th grade students to solve systems of equations. These are two equations with 2 variables (usually x and y). The standard also requires students to use logical thinking to identify immediate solutions to simple problems like the one described in the standard.
Geometry	Use properties of similarity and congruence in triangles to solve problems involving lengths and areas.	Use congruency and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.	The past standard and the Common Core standard are closely related. However, the Common Core standard requires students to not only use similar triangles (triangles that are the same shape, but different sizes) to find lengths and areas, but also to solve real-life application problems using similar triangles. The Common Core standard also calls for students to prove why other relationships exist in geometric figures.