

**Missing or Delayed in Common Core's Mathematics Standards
Presented at National Principals Leadership Institute (NPLI), July 2014**

Kindergarten – Grade 7:

- CC does not require proficiency with addition and subtraction until Grade 4 (a grade behind our international competitors).
- CC does not require proficiency with multiplication using the standard algorithm (step-by-step procedure for calculations) until Grade 5 (a grade behind standard expectations).
- CC does not require proficiency with division using the standard algorithm until Grade 6 (two grades behind our international competitors).
- CC starts teaching decimals in Grade 4 (about two years behind the more rigorous states).
- CC fails to teach in K-7 key geometrical concepts (e.g., sum of angles in a triangle, isosceles and equilateral triangles, etc.).
- Excludes fluent conversion between different forms of fractions – regular fractions, decimals, and percents
- CC fails to teach prime factorization. Consequently, it does not include teaching about least common denominators or greatest common factors.

Algebra 1: Missing components needed for Algebra 2 and Calculus:

1. Division of monomials and polynomials (only addition/subtraction/multiplication are covered)
2. Derivation and understanding of slopes of parallel and perpendicular lines
3. Manipulation and simplification of rational expressions
4. Multi-step problems with linear equations and inequalities
5. Multi-step problems with four operations between polynomials
6. Multi-step problems involving manipulation of rational expressions
7. Solving two linear inequalities in two variables and sketching the solution sets

The following were added to California's Common Core version:

8. Solve problems with equations and inequalities with absolute value
9. Solve problems with quadratic expressions

Algebra 2: **Missing components needed for Calculus**

- composite functions
- combinations and permutations
- finite and infinite arithmetic and geometric sequences
- mathematical induction

See: <http://concernedpvpapers.org/2014/05/27/cc-math-dumbed-down-proof/>