



RAISE THE BAR

Expect More. Achieve More.

Common Core MATH – How is it different?

This link: [“The Heart of Math Education”](#), will show you a very short video from Samuel Otten, PhD, Assistant Professor of Mathematics Education, University of Missouri, with an introduction to what Math Education and Common Core Math is about.

In Common Core Mathematics Students learn to think creatively, solve problems, and understand the **how and why** of math.

Grade 2 example

In the pre-Common Core examples, students concentrate primarily on completing simple addition examples. In post Common Core questions, while students still need to show accuracy in answering the question, they are also challenged to understand HOW to solve the problem.

Addition BEFORE Common Core:

1. $6 + 6 = \underline{\quad}$
2. $12 - 6 = \underline{\quad}$
3. $12 + 0 = \underline{\quad}$

Addition in a Common Core Classroom:

All three questions here require an understanding of what addition means, and when to use it, *as well as* requiring basic addition skills.



Eva's Stars



Jacob's Stars

1. Each table needs to get 20 stars to have free time on Friday. Eva and Jacob put their stars together to get points for their table. How many stars do they have together?
2. Will Eva and Jacob have an even or odd amount of stars for their table? How do you know this?
3. Write an equation to show how many stars Eva and Jacob have together.



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Grade 3 example

In the pre-Common Core example, students use basic skills of adding and multiplying, and apply the rules for finding perimeter and area. Students don't need to understand the concept of area and perimeter; they just need to remember a formula. In the Common Core example, the student is asked to show understanding of the *concept* of area as well.

Area BEFORE Common Core:

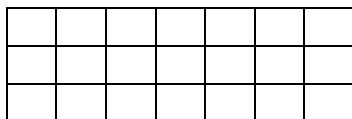


1. What is the area of the rectangle?
2. What is the perimeter of the rectangle?

Area in a Common Core Classroom:

The first question is asking students to describe area as being about the 'space inside' a shape. So they might say you could count the number of squares inside the placemat, or count one row of squares and multiply by the number of columns. Another correct answer is to multiply the side lengths. In question 2, the student could add all 4 sides, or add two sides and multiply that new total by 2, or multiply each side by two then add those totals. Students create a representation of the math problem on their own. This problem pushes students to go beyond applying a rule or formula to conceptual knowledge.

This picture show a placemat that Mrs. Barker is making out of tiles.
In the picture below, each tile represents one square inch.



1. Describe two different ways of finding the area of this place mat.
2. What are the lengths of each side of the rectangle? What are two different ways to find the perimeter of this rectangle?
3. What will the total area of the placemat be? Write a number sentence to represent the area of the placemat