The Common Core State Standards

M.S.A.D. No. 75

Welcome!

Our learning targets for the evening include:

- Understand what a “standard” is
- Understand a brief history of the Common Core State Standards (CCSS) in Maine
- Recognize the difference between a few myths and facts related to the CCSS
- Understand some of the “major shifts” in the new standards, and how we address them in our district

Code of Cooperation

- We are helpful
- We are respectful
- We assume positive intentions

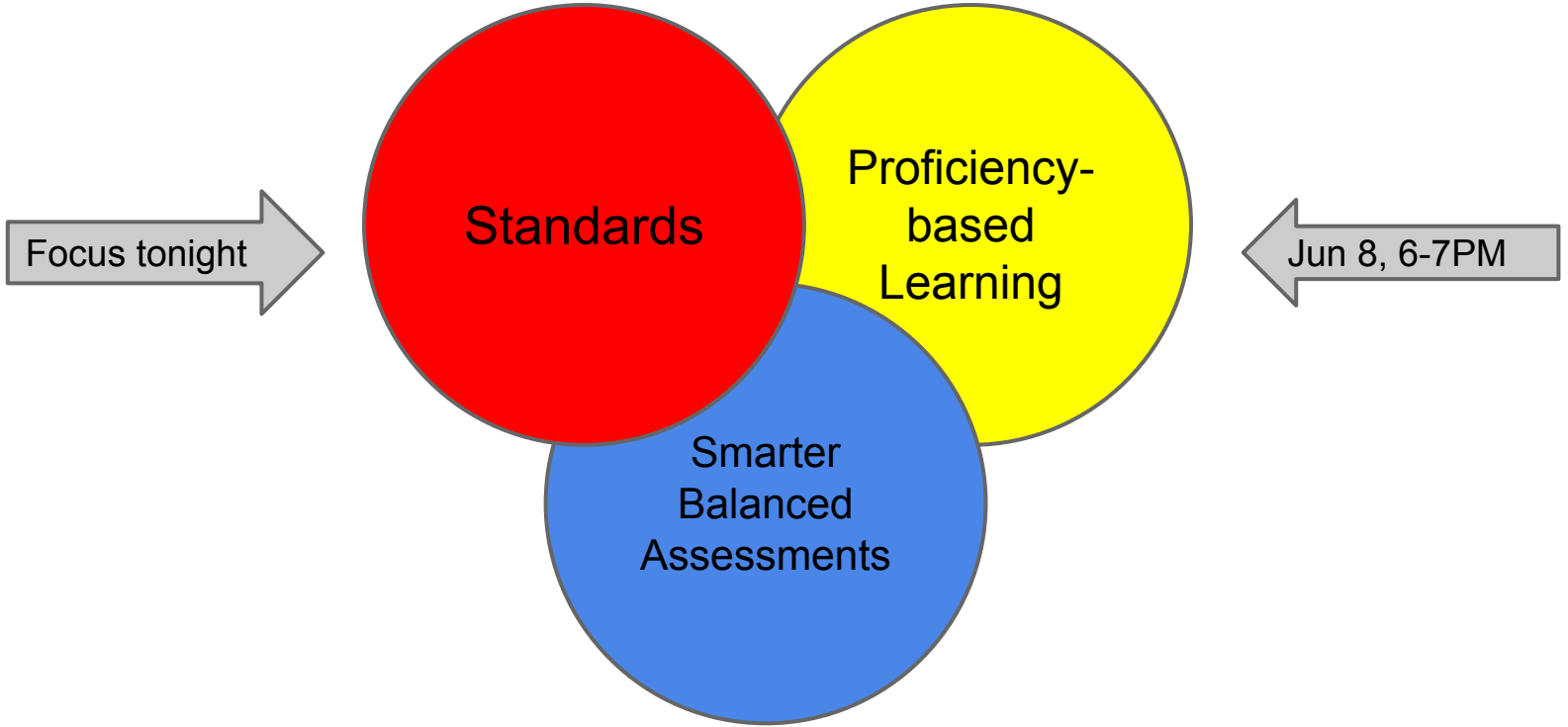
We have much to share,

but we also want to hear from you!

To help with this, we'll use a

Parking Lot

Comprehensive changes



Why have standards?

- Standards include what students should know, understand, and be able to do
- They help build a clear pathway to college, career, and civic success
- The provide clear expectations at multiple levels - for parents, teachers and students
- They enhance feedback, which is powerful for student learning

Background on CCSS

- State-led initiative, facilitated by the Council of Chief State School Officers (state commissioners of education), as well as the National Governors' Association, starting in 2009

Background on CCSS

- Maine's standards are known as the *Maine Learning Results*
- In 2011, the *Common Core State Standards* were incorporated into the *Maine Learning Results* for English Language Arts and Mathematics

http://www.mainelegislature.org/legis/statutes/20-A/title20-Asec6209.html

Background on CCSS

- Adopting rigorous *college, career, and civic readiness* standards allowed the State to
  - Be eligible for a federal Race to the Top grant
  - Be eligible for federal “No Child Left Behind” flexibility
  - Collaborate with other states in professional development and resources

Myth vs. Fact

- The standards tell teachers *how* to teach
  - The standards tell teacher *what* students should know and be able to do.
- The standards will result in a national database of private student information
  - The standards do not collect information - they are learning expectations.

Myth vs. Fact - English Lang. Arts

- The standards do not have enough emphasis on fiction/literature
  - Both are emphasized, but stories, drama, and poetry (and other literature) account for the majority of reading that students will do in their English Language Arts Courses. Informational reading should be addressed in other content-area courses.

Myth vs. Fact - Mathematics

- Key topics are missing or appear in the wrong grade
  - Nothing is missing, though topics may appear in a different grade than our previous standards in order to improve the coherence of the topic from grade to grade. The idea was to begin building foundational concepts in the lower grades and extend and apply those concepts as they move to the higher grades. There is coherence as students keep building on the previous year's knowledge.

Major shifts - English Lang. Arts

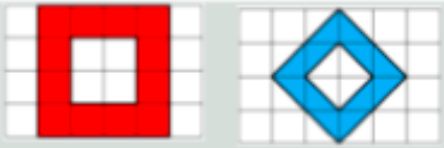
1. Early reading and writing
2. Speaking and listening
3. Argument
4. Nonfiction and informational texts

Major shifts - Mathematics

1. Stronger **focus** on fewer topics
2. **Coherence**: linking topics and thinking across grades
3. **Rigor**: going beyond the procedures; asking students to understand and apply the mathematics in the world

Coherence Across Grades

Consistent Progressions

CCSS-Aligned Progressions (Area and Surface Area)	
3.MD.C.6:	Find the area of each colored figure. 
4.MD.A.3:	Karl's rectangular vegetable garden is 20 feet by 45 feet, and Makenna's is 25 feet by 40 feet. Whose garden is larger in area? How much larger is that garden?
5.NF.B.4b:	An aerial photo of farmland shows the dimensions of a field in fractions of a mile. Create a model to show the area, in square miles, of a field that is 3/4 mile by 1/3 mile.
6.G.A, 6.RP.A.3:	Alexis needs to paint the four exterior walls of a large rectangular barn. The length of the barn is 80 feet, the width is 50 feet, and the height is 30 feet. The paint costs $28 per gallon, and each gallon covers 420 square feet. How much will it cost Alexis to paint the barn? Explain your work.

Coherence--The Practice Standards Link Mathematical Thinking Across the Grades

K-12 students are asked to. . .

- explain the meaning of a problem
- persevere in solving problems
- justify their mathematical thinking
- use mathematical models to solve problems
- select and use appropriate technological tools
- use mathematical vocabulary
- specify labels and units
- analyze and use patterns to solve problems

6) Students were asked to simplify the following expression: $(x + 4y)(2x - 3y)$

Three students have simplified the expression differently.

Circle the student you think simplified correctly and explain your choice.

Student A:

$(x+4y)(2x-3y)$

$= 3x - 3xy + 8yx - 12y$

$= 3x + 5xy - 12y$

Student B:

$(x+4y)(2x-3y)$

$= 3x + y$

Student C:

$(x+4y)(2x-3y)$

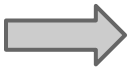
$= 2x^2 - 3xy + 8xy - 12y^2$

$= 2x^2 + 5xy - 12y^2$

Explain which student is correct and where the other students made their mistake.

Rigor

equal intensity



- Conceptual Understanding
- Procedural Skills
- Application

11. You are trying to decide between the Gold and the Platinum Frequent Skier Plans. The Gold Plan costs $94 initially and $50 for each daily lift ticket. The Platinum Plan costs $160 with $44 for each lift ticket. Find the break-even point and explain what this means.

$50x+94=44x+160$
$-44x \quad -94 \quad -44x \quad -94$

$\frac{6x}{6}=\frac{66}{6}$

$x=11$ ✓

Explanation: If you went skiing 11 days both plans would cost the same. If you went skiing less than 11 days the gold pass is cheaper, more than 11 days the platinum pass is cheaper. ✓

7. Chuck Stone is standing atop a high platform. He fires a rock up into the air with his slingshot. While it is in flight, the rock's distance above the ground is a quadratic function of time. At times 1, 2, and 3 seconds after he fired it, the rock is 68, 96, and 114 meters above the ground, respectively.

a. Write the particular equation for this function.

(1,68) (2,96) (3,114)

X = time (seconds)
Y = height (meters)

$68 = a+b+c$

$96 = 4a+2b+c$ ·-1

$114 = 9a+3b+c$ ·-1

$28 = 3a+b$ ·-1

$18 = 5a+b$

$-28 = -3a-b$

$\frac{-10}{2} = \frac{2a}{2}$

$a = -5$

$18 = 5(-5)+b$

$18 = -25+b$

$+25 \quad +25$

$b = 43$

$68 = -5+43+c$

$68 = 38+c$

$-38 \quad -38$

$c = 30$

$y = -5x^2+43x+30$ ✓

b. Use your model to predict how high above the ground the rock will be at 7 seconds.

$Y = -5(7)^2 + 43(7) + 30$ $Y = -245 + 301 + 30$

$Y = 86$ 86 meters ✓

c. How high is the platform?

$Y = -5(0)^2 + 43(0) + 30$

$Y = 30$

30 meters ✓

d. When will the rock be 50 meters from the ground? (Round to the nearest tenth of a second.)

$50 = -5x^2 + 43x + 30$

$-50 \quad -50$

$0 = -5x^2 + 43x - 20$

$\frac{-43 \pm \sqrt{43^2 - 4(-5)(-20)}}{2(-5)} = \frac{-43 \pm \sqrt{1449}}{-10} \approx 0.5, 8.1$

at 0.5 seconds and 8.1 seconds ✓

e. When will the rock be at its highest? (Round to the nearest tenth of a second.)

$y = -5x^2 + 43x + 30$

$\frac{-43}{2(-5)} = 4.3$

4.3 seconds

f. Explain your reasoning for part e above.

I got the vertex because that's the highest point of the parabola and since the x=seconds and y=height took the x, and that the amount of time it takes.

Turn and talk

- At first I thought…. but now I realize...

Parking Lot

Thank you for coming!

- *We will be posting these slides on our website.*
- *Please be in touch if you do have additional questions: Dan Chuhta, Asst.Superintendent*

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