Curriculum Committee Common Core/PA Core Standards

May 3, 2016

Goals of Presentation

- Provide background of the development of standards
- Provide information about the Common Core
  - Challenges
  - Opportunities
- BASD implementation

Development of Standards in Education

- Standards-based education reform in the United States began with the publication of *A Nation at Risk* in 1983
- A reauthorization of the Elementary and Secondary Education Act (ESEA) was passed to ensure that all states had rigorous standards for all subject areas and grade levels.
- By 1998, almost every state had implemented or was in the process of implementing academic standards for their students in math and reading
- This vision was then carried forward 2001 with the passing of No Child Left Behind (NCLB)

PA Core/Common Core Standards

- State Board of Education approved final PA School Code Chapter 4 regulations on September 12, 2013
- These regulations took affect on March 1, 2014
- State tests were revised to reflect the changes in expectations during the 2014-2015 school year

PA Core/Common Core Standards

- So, what are they?
- They offer a set of rigorous, high-quality academic expectations in ELA and math that all students should master by the end of each grade level
- They are robust and relevant to the real world and reflect the knowledge and skills our young people need to succeed in life after high school

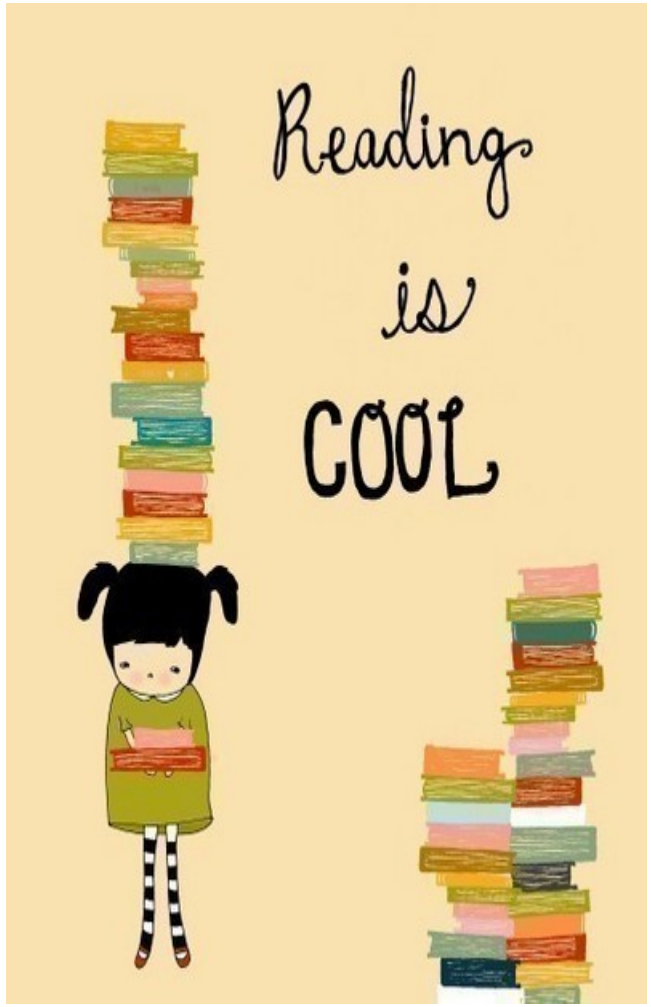
College and Career Readiness

The new standards will get students ready for success in college and the workforce.

...but what does that mean?

A Closer Look: ELA/Literacy Shifts

- Read as much non-fiction as fiction
- Learn about the world by reading
- Read more challenging material closely
- Discuss reading using evidence
- Write non-fiction using evidence
- Increase academic vocabulary



ELA Test Question – Pre Common Core

In both the *Demosthenes* biography and the *Icarus and Daedalus* myth the main characters are given advice from other people. Do you respond to advice from other people more like Demosthenes or more like Icarus? Write an essay in which you explain who you are more like when it comes to taking advice and why. Use details from both articles to support your answer.

In your response, be sure to do the following:

- tell whether you are more like Demosthenes or Icarus
- explain why you respond to advice similar to Demosthenes or Icarus
- use details from both passages in your response

ELA Test Question – Post Common Core

In both the *Demosthenes* biography and the *Icarus and Daedalus* myth the main characters exhibit determination in pursuit of their goals. Did determination help both main characters reach their goals, or did it lead them to tragedy? **Write an argument** for whether you believe determination helped or hurt the two main characters. In your response, be sure to do the following:

- **describe** how determination affected the outcome in *Demosthenes*
- **describe** how determination affected the outcome in *Icarus and Daedalus*
- **explain** the similarities or differences that exist in the ways determination played into the outcome of both texts
- **use details** from both passages in your response

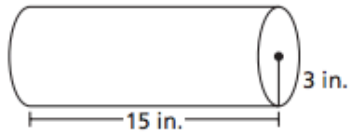
A Closer Look: Mathematics Shifts

- Focus: learn more about less
- Build skills across grades
- Develop speed and accuracy
- Really know it, Really do it
- Use it in the real world
- Think fast AND solve problems

Math Test Question: Pre-Common Core

7.G04
Determine the surface area of prisms and cylinders, using a calculator and a variety of methods.

38 The diagram below shows a pillow Chris wants to cover with fabric.



[not drawn to scale]

What is the **total** surface area of the pillow? Round your answer to the nearest hundredth.

Show your work.

Answer _____ square inches

If Chris shortens the length of the pillow from 15 inches to 12 inches, how much **less** fabric will she need? Round your answer to the nearest hundredth.

Show your work.

Answer _____ square inches

Math Test Question: Post Common Core

6.G.1

Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.

6.RP.1

Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, “The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.” “For every vote candidate A received, candidate C received nearly three votes.”

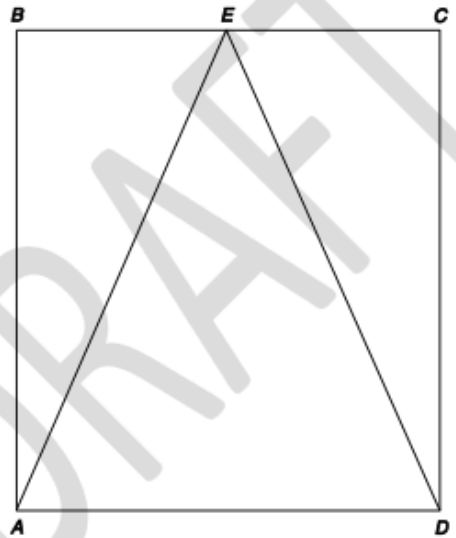
Domain: Geometry
Item: CR

11 Triangle *ADE* is inside rectangle *ABCD*. Point *E* is halfway between points *B* and *C* on the rectangle. Side *AB* is 8 cm and side *AD* is 7 cm.

Part A: What is the area of triangle *ADE*? **Show your work.**

Part B: What is the ratio of the area of triangle *ABE* to the area of triangle *ADE*?

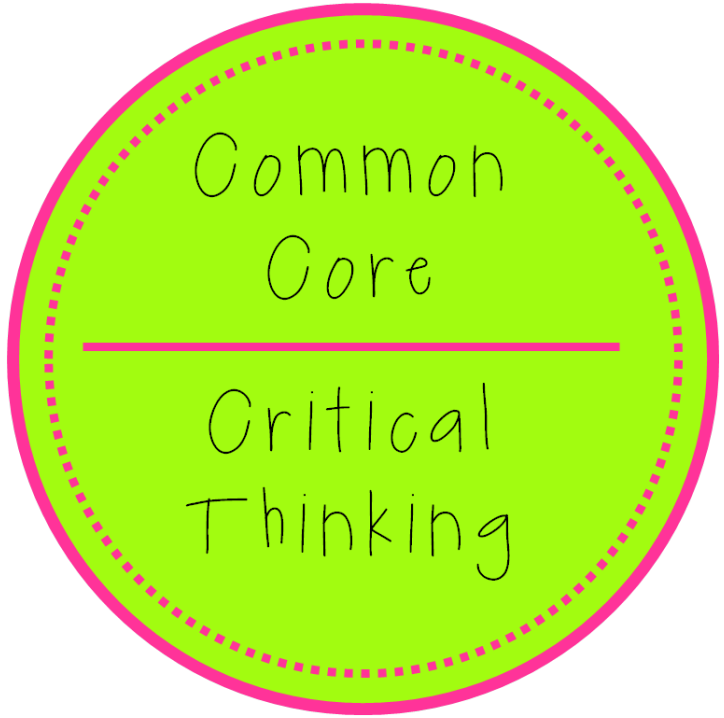
Part C: What is the ratio of the area of triangle *CDE* to the area of rectangle *ABCD*?



(Not drawn to scale)

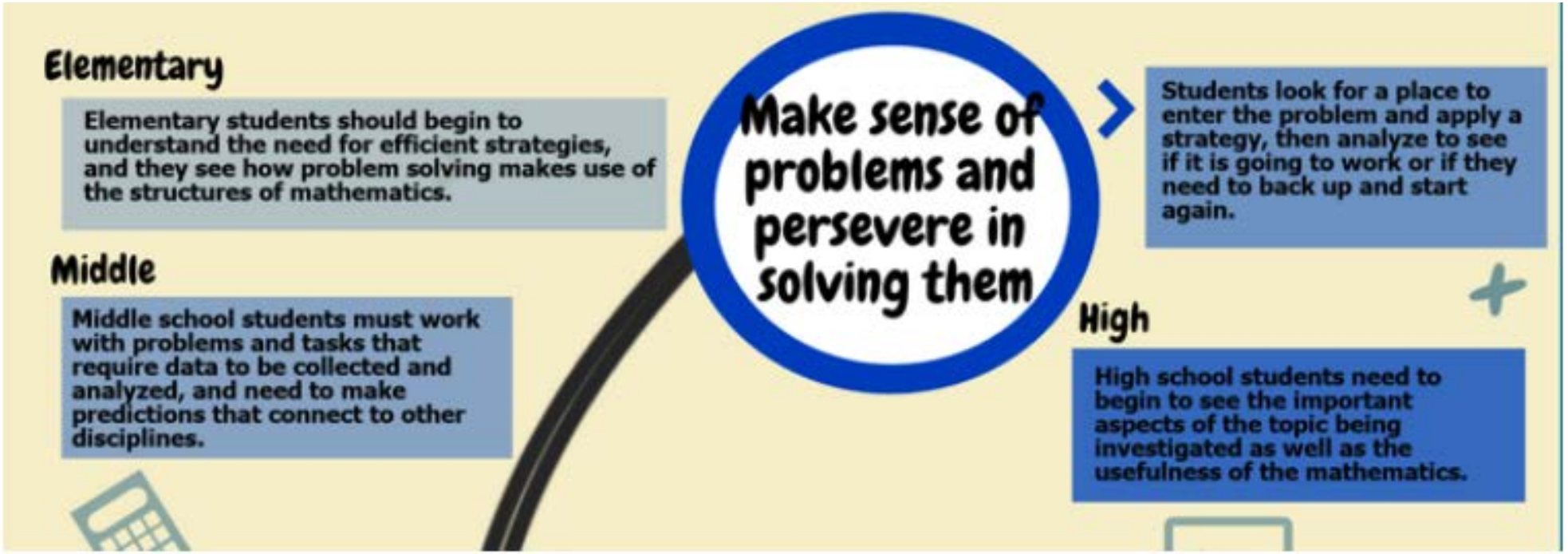
Video clip of CCSS Math Explanation

- https://www.youtube.com/watch?v=BNP5MdDDFPY
- CCSS Math explanation



Standards of Mathematical Practice

- **Processes**
  - **problem solving**
  - **reasoning and proof**
  - **communication**
  - **representation**
  - **connections**


Elementary
Elementary students should begin to understand the need for efficient strategies, and they see how problem solving makes use of the structures of mathematics.
Middle
Middle school students must work with problems and tasks that require data to be collected and analyzed, and need to make predictions that connect to other disciplines.
Make sense of problems and persevere in solving them
Students look for a place to enter the problem and apply a strategy, then analyze to see if it is going to work or if they need to back up and start again.
High
High school students need to begin to see the important aspects of the topic being investigated as well as the usefulness of the mathematics.

Standards of Mathematical Practice

- **Proficiencies**
  - **adaptive reasoning**
  - **strategic competence**
  - **conceptual understanding**
  - **procedural fluency**
  - **productive disposition**

What does this mean for BASD?

- Greater focus on the mathematical practices
- Professional Learning
  - Building knowledge of CRA practices
  - Math Design Collaborative strategies for grades 3 and higher
  - Seeking out resources promoting deeper thinking
    - Problems of the Week (POW's)
      - Drexel University Partnership – Math Forum
    - EngageNY.org
    - Achieve the Core

Challenges to Common Core Implementation

- Time
  - Implementing the standards will require substantial changes in curriculum and instruction
  - Preparing teachers for the new standards and more rigorous expectations for students
- Communication
  - Parents
  - Stakeholders
- Common Core Standards will require younger students to learn more at a quicker pace than they ever have before

Opportunities related to Common Core Implementation

- The Common Core Standards will increase the rigor in the classroom and thus better prepare students for college and global work success.
- Common Core Gives Students a Deep Dive
  - The new standards will lead to the development of higher level thinking skills in our students
- The Common Core Standards are internationally bench-marked.

CRA

- Concrete (sense making by moving)
- Representational (sense making by drawing)
- Abstract (sense making with symbols)

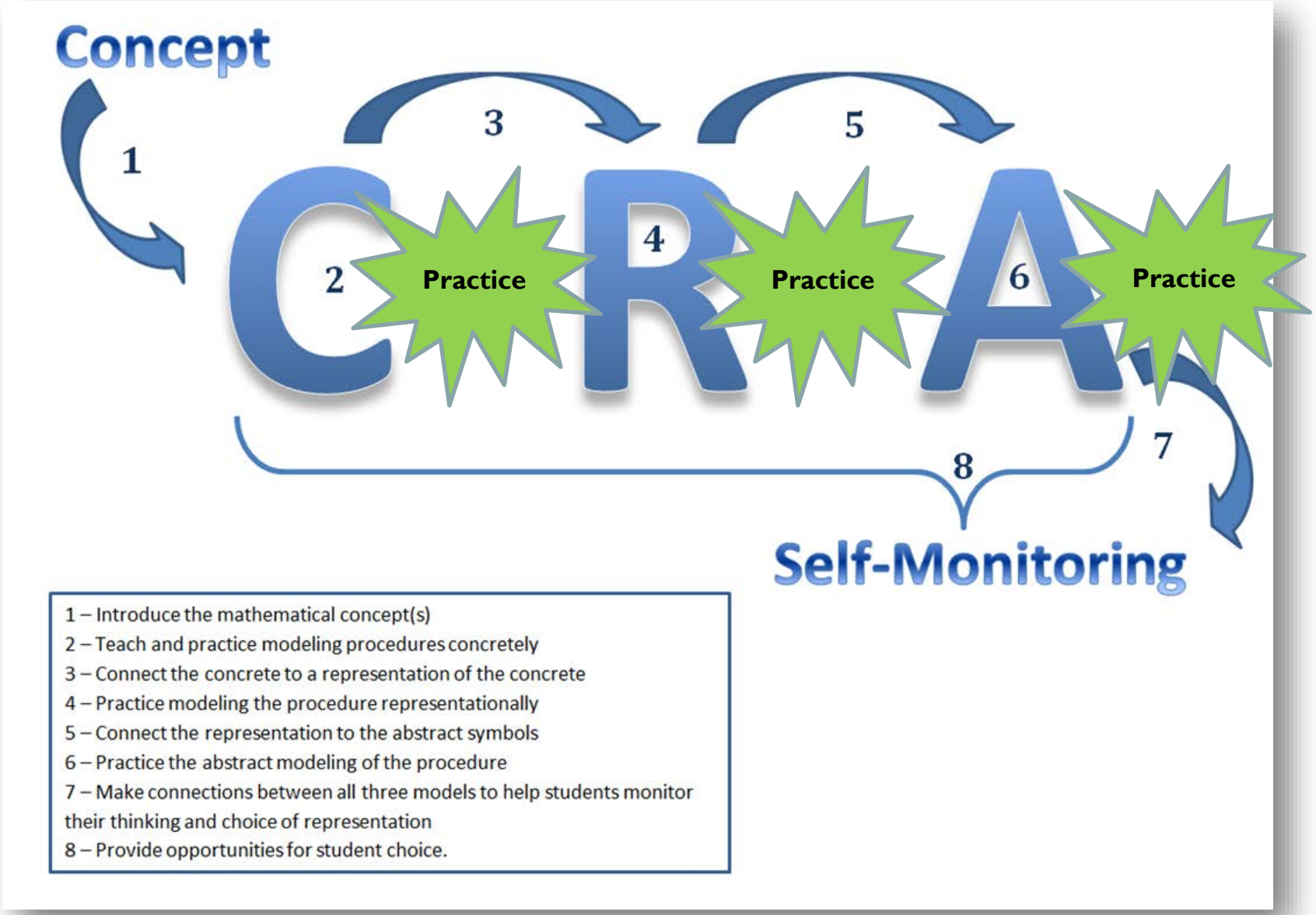
CONSISTENT LANGUAGE

Rationale – Doing What Works

Research-based studies show that students who use concrete materials develop **more precise and more comprehensive mental representations**, often show more motivation and on-task behavior, understand mathematical ideas, and better apply these ideas to life situations.

(Harrison, & Harrison, 1986)
(Suydam & Higgins, 1977)

CRA Sequence of Instruction



Primary Grades - Building Number Sense

- Counting All

  1,2,3,4,5,6……

- Counting On

  (I have 6 already) 7,8,9,10,11…..

- Subitizing

  number sense without counting

- Composing and Decomposing Numbers

  7 = 6+1 7 = 3+4 7 = 9-2

- Place Value

  342 = 3 Hundreds + 4 tens + 2 ones

Next Steps

- Monitoring the progress of ESSA
  - Every Student Succeeds Act
    - States do have to have academic standards in order to receive federal education funds.
    - Implications for PA's districts
- Continuing to follow the law as guided by PA Chapter 4 of School Code
  - Aligning curricula to Core Standards
  - Implementing practices aligned to expectations

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Questions?

THANK YOU

An understanding can never be “covered” if it is to be understood.

Wiggins and McTighe (2005, p. 229)