Exploration: A Deeper Dive into Two Model Curriculum Units

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Presenters

March 2013

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- **Sarah Churchill Silberman, Model Curriculum ELA Lead**
- **Readiness Center Presentations, March, 2013**

Exploration Outline

- Key Shifts in the 2011 Massachusetts English Language Arts/Literacy and Mathematics Curriculum Frameworks

- Overview of the Model Curriculum Unit (MCU) Project

- Deep dive into two publicly released Model Curriculum Units: Grade 6 Rates and Ratios, Grade 3 Whose Story is It?

  http://www.doe.mass.edu/candi/model/sample.html

Overarching Goal

To prepare all students
for success after high school

2011 Massachusetts Curriculum Frameworks for English Language Arts/Literacy and Mathematics

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Key Shifts in the Mathematics Standards

- **Focus:** Deeper look into fewer standards
- **Coherence:** Think across grades, and link to major topics
- **Rigor:**
  - Expectation of conceptual understanding, procedural skill and fluency, and application
  - New Standards for Mathematical Practice
- **Clarity**

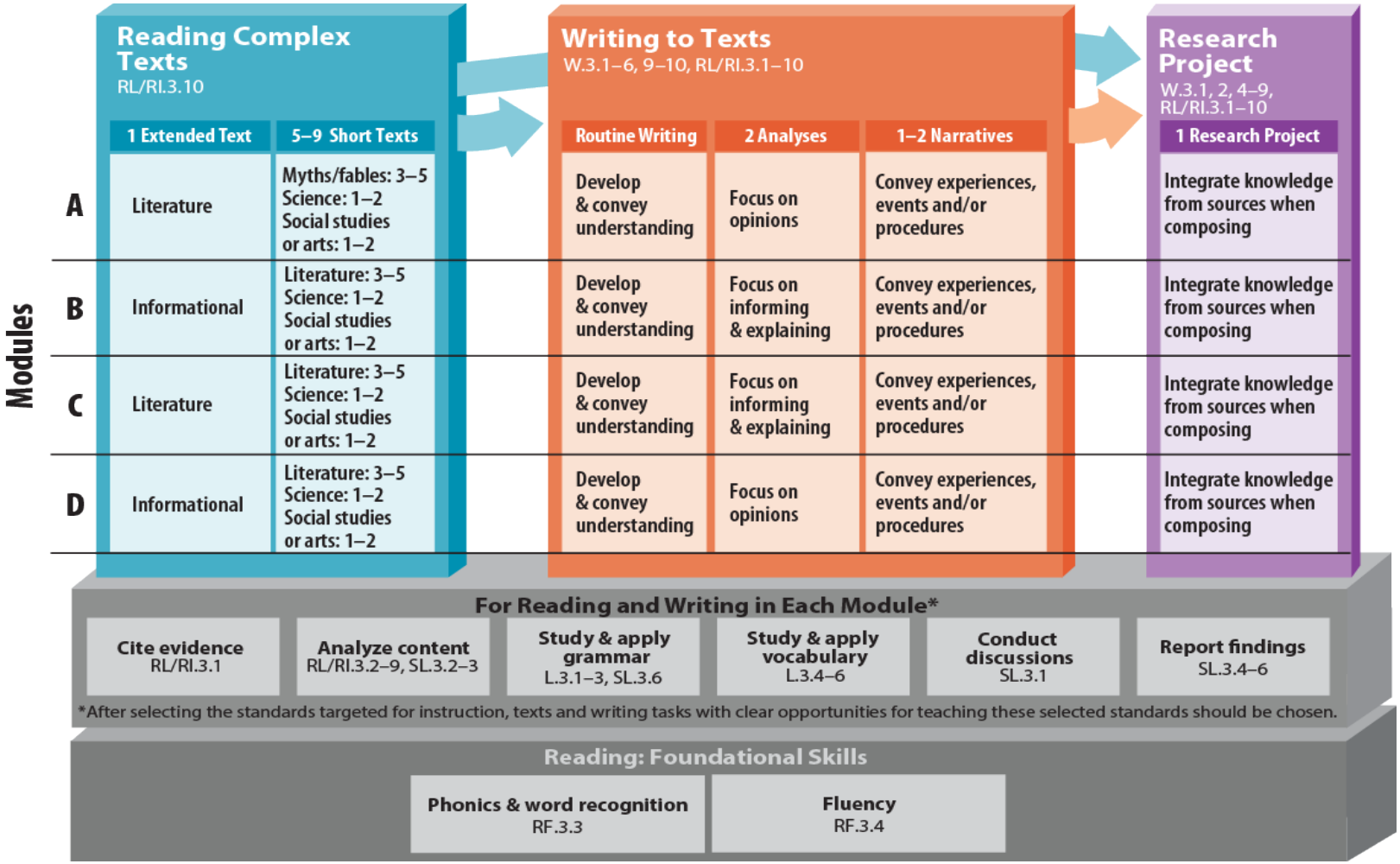
Standards for Mathematical Practice

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and mane use of structure.
- Look for and express regularity in repeated reasoning.

Key Shifts in the ELA Standards

- Building knowledge through content-rich nonfiction
- Reading, writing, and speaking grounded in evidence from text, both literary and informational
- Regular practice with complex text and academic language

PARCC Model Content Framework
For English Language Arts and Literacy Grade 3



Model Curriculum Units (MCU) Project Overview

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Model Curriculum Units

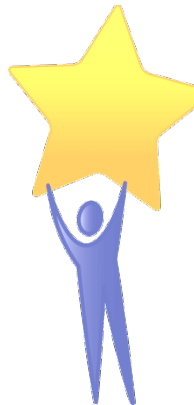
Provide districts and teachers with high quality and rigorous units they can choose to teach and/or use to advance their own curriculum development efforts.

Model Curriculum Units

- MCU project is a Race to the Top (RTTT)
- 100 PK-12 units in ELA/literacy, mathematics, history social science, science technology and engineering by 2014
- *Understanding By Design (UbD)* model with lesson plans and print/digital media resources
- WGBH documenting the process

Why these Particular Math Concepts were Chosen for MCUs

- Identified as critical areas/priority concepts and skills in the Common Core and PARCC
- Focus on a progression over grades (e.g., grade 3-5 fractions)
- Standards that are challenging for teachers to teach and students to learn, e.g. fractions



Why these Particular ELA/Literacy Concepts were Chosen for this MCU

Student need practice with:

- Making inferences
- Writing from evidence
- Reading challenging texts

Ensuring Quality MCUs

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Tri-State Quality Review Rubric for Lessons and Units

- Developed by the Tri-State Collaborative (MA, NY, RI)
- Used to evaluate all English language arts and mathematics model units
- Can be used to:
  - create high quality model units
  - review existing units for quality
  - revise units

High Quality Model Curriculum Units Released for Tryout

In November 2012

- Four prototypes were ***publicly*** released at the Curriculum and Instruction Summit. They can be found at:

http://www.doe.mass.edu/candi/model/sample.html

- Over 30 Model Curriculum Units were released **to RTTT districts** to be tried out this year (2012-13). (See handouts).

Model Curriculum Units Tryouts

- The purpose of the tryouts is to:
  - Collect feedback to ensure MCUs are high quality
  - Inform final editing and revisions prior to publication
- Teachers who try out the units provide:
  - General feedback to us
  - Complete the online survey

Understanding by Design and Model Curriculum Units

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MCU UbD Format

- Stage 1- Desired Results
- Stage 2- Evidence
- Stage 3- Learning Plan
- Lesson Plans (the details and resources)

Stage 1 Desired Results

- Stage 1 includes:
- Transfer goal
- Curriculum Framework Standards
- Essential Understandings
- Essential Questions
- Knowledge
- Skills

Rates and Ratios pages 3-6

Stage 2 - Evidence

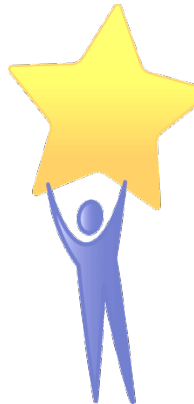
- Curriculum Embedded Performance Assessment (CEPA)
  - Designed with the end in mind
  - Requires students to *independently* apply and demonstrate their understanding through complex performance task
  - Goal is for students to independently complete the CEPA(s)
- Other assessments, evaluative criteria

Stage 3- Learning Plan

- A “roadmap” of the learning experiences throughout the unit as defined in the targeted standards
- Followed by detailed lesson plans

Unit Lesson Components

- Essential Questions and standards
- Assumptions of what students need to know coming into the unit
- Outcomes
- Instructional resources/tools
- Anticipated student Preconceptions/Misconceptions
- Assessments
- Lesson sequence and description with Teacher Notes and Technology resources
- Closure
- Teacher reflections



A Deep Dive into a Mathematics MCU: Grade 6: *Ratio and Rate*

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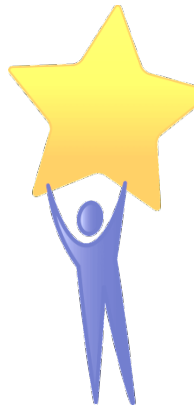
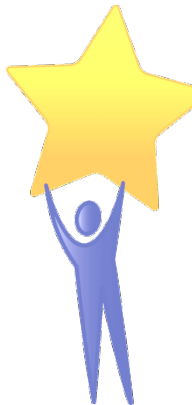
Why Ratio and Rates?

- First critical area of focus for Grade 6
  - *(1) Connecting ratio and rate to whole number multiplication and division, and using concepts of ratio and rate to solve problems*
- First of the three model units in the learning progression from
  - Grade 6: Ratio and Rates
  - Grade 7: Proportions & Proportional Reasoning
  - Grade 8: Connecting Proportions, Lines, & Linear Equations



Why Ratio and Rates?

- Standards Addressed in this unit* (Established Goals):
- **Content**
- **6RP1**: Understand the concept of ratio and use ratio language...
- **6RP2**: Understand the concept of a unit rate...and use rate language
- **6RP3**: Use ratio and rate reasoning to solve real world problems...
- **Practice**
- **SMP1**: Make sense of problems...
- **SMP2**: Reason abstractly and quantitatively
- **SMP3**: Construct viable arguments...
- **SMP4**: Model with Mathematics
- **SMP7:** Look for and Make use of Structure
- **MA Mathematics Framework page 55, Ratio and Rates Unit pages 3-5*
- **Supporting ELA Standards**
- **RST4** Determine the meaning ... in a technical context..., **WHST2** Write informative/explanatory texts..., **WHST4** Produce clear, coherent writing...

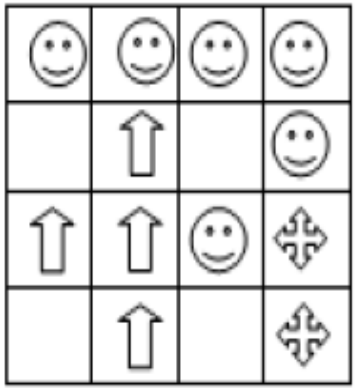


Essential Questions from this Unit, Discuss!

- How are ratios and rates used in everyday life?
- How would life be different without ratios and rates?

Classroom Task

2. Here is a grid with different kinds of boxes.



A. Using the colon form (:), write the ratio of ✣ to ⇧ _____

B. Using the fraction form, write the ratio of ☺ to the total number of boxes in the grid.

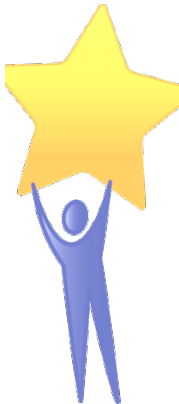
___

C. Write the ratio of ⇧ to the total number of boxes in the grid. _____

D. Write the ratio of empty boxes to the total number of boxes in the grid. ____

E. Write the ratio of ✣ to ☺ _____

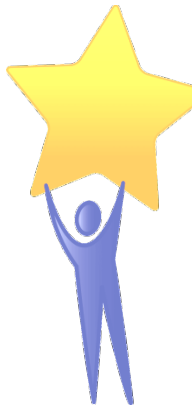
F. Which two kinds of boxes have a ratio of 2:3? Justify your answer.



Ratio and Rates Unit
Lesson Task

As you work on the problem, consider...

- What standards, goals or math concepts are students addressing in the task? (refer to next slide)
- Why is this task a good task for students?



Ratio and Rates

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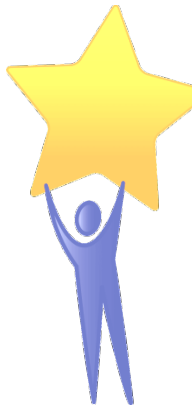
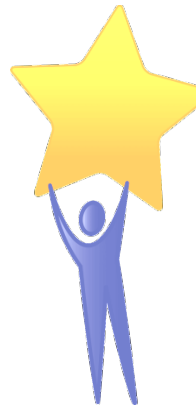


Exploring the MCU *SCAPE!*

Reflection

Think - Pair - Share Activity

- What is new about **how** the mathematics is taught in this unit?
- Do you think this unit will help students reach the intended goals for the unit? Why or why not?
- What is new about the 6th grade math **content** taught in this unit?
- What supports might be needed to teach this unit?



A Deep Dive into a English Language Arts: Grade 3: *Whose Story is It? The Craft and Structure of Writing about History (Plymouth)*

Why Historical Writing and Point of View?

- Focus on craft and structure standards
- 3rd Grader Content-Plymouth—multiple viewpoints
- 3rd Graders ready to consider other perspectives, decisions authors make

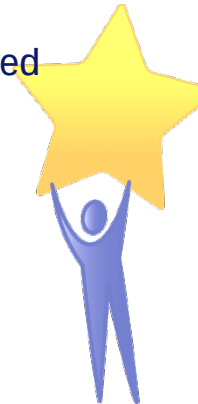
Standards in *Whose Story is It?*

ELA/Literacy

- **RI.3.4** Determine the meaning of general academic and domain-specific words...
- **RL.3.6** Distinguish their own point of view from that of the narrator or those of the characters.
- **RI.3.7** Use Information gained from illustrations ... to demonstrate understanding of the text
- **RI.3.8** Describe the logical connections between particular sentences and paragraphs in a text...
- **RI.3.9** Compare and contrast the most important points and key details presented in two texts **on the same topic.**
- **SL.3.1** Engage effectively in a range of collaborative discussions...
- **W3.2** Write informative/explanatory texts to examine a topic and convey ideas and information clearly
- **W.3.3** Write narratives to develop real...experiences or events....

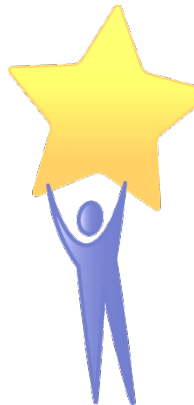
History/Social Science

- **3.2** Identify the Wampanoags and their leaders at the time the Pilgrims arrived and describe their way of life.
- **3.3** Identify who the Pilgrims were, ... why they left Europe to seek religious freedom; describe their journey and their early years in the Plymouth Colony.
- **3.12** Explain how objects or artifacts of everyday life in the past tell us how ordinary people lived and how everyday life has changed.



Essential Questions from this Unit, Discuss!

- Why is writing history or a news article different from writing fiction?
- What was life like in the 1600s in the place we now call Massachusetts?
- Why should we ask ourselves “whose story is it?” when we learn about the past?



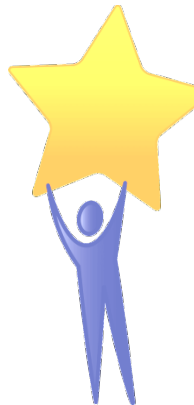
Whose Story is It?

Lesson 1, pp. 7-9

- In the lesson sequence, p. 9, look at step 1 and step 4.
- Read through the Ibook.

Questions to discuss with your group:

- Why is this text a good start to a ELA/HSS unit on writing history?
- What would students learn from this text and the following writing activity?



Whose Story is it?

Lesson 4, Section 2, p. 25

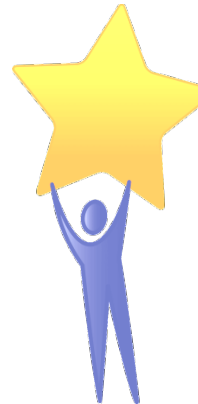
To set the stage for understanding the journey, the teacher reads the following quote: *The ship is small, wet, and foul. The smells are horrid. There is no place to change or wash clothes. Each adult (has) a space below deck measuring seven by two and a half feet. Children get even less room. None of the passengers is allowed on deck; there is little fresh air below and many are sick. Fresh food soon runs out and then there is hard bread and dried meat that is wet and moldy. But the Pilgrims have onions, lemon juice, and beer to keep them from getting...scurvy".*

The Story of US by Joy Hakim, Book 2: Making Thirteen Colonies 1600-1740.

Whose Story is It?

Lesson , pp. 31-35

1. Read through lesson 5 pp. 31-35.
2. Read one of the three books: *Sarah Morton's Day, Tapenum's Day, Samuel Eaton's Day*.
3. Discuss the lesson sequence and the book with your group.
   - In what ways would this lesson challenge your students?
   - What parts of the lesson would be new ways of teaching about the material?



Whose Story is It?

CEPA, pp. 41-45

1. What is the task?
2. What would students learn by doing the CEPA?
3. What would teachers learn through this type of assignment?

CEPA Examples
Attleboro 3rd Grade

Student Writing Sample

One thing we have in common with the Wampanoag is that we both like to have fun and play games. Games we play today use electricity or are made of plastic. The Wampanoag toys are made of wood or nature. Back then they didn't have electricity or plastic. Many children play and do sports such as basketball, baseball, hockey and cheerleading. Wampanoag tossed rocks and stones into a bowl from a large distance away (That sounds like our basketball game we play today!) The boys play hubbub which is a game that Wampanoag boys played by running with a ball (that sounds a lot like our game of football.)

Reflection

Think - Pair - Share Activity

- What is new about this type of narrative writing?
- Do you think this unit will help students reach the intended standards for the unit? Why or why not?

Next Steps
Implementation and/or Unit Development

Implementation

- If presented with this unit, could you pick it up and teach it?

- What professional development would need to teach one of these model units?

District Unit Development

- What support would you/district curriculum committees need to develop such units?
- How would you ensure quality units are developed?

Questions?

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