Seating

- Sit with people from your grade band
  - Elementary on the right as you face the screen
  - Middle school in the middle
  - Secondary on the left as you face the screen
- Mix K-12 and higher education participants
- Don't sit with people from your institution
- Connect your laptop or tablet to the wireless network

Implementing the Common Core

DENISE A. SPANGLER
UNIVERSITY OF GEORGIA

Session goals

- Dig into some standards
- Explore some resources
  - Learning progressions
  - Curriculum progressions
  - Tasks
- Experience the standards for mathematical practice

Let's do some math!

- 4/11 of the students in the music hall are boys. There are 84 more girls than boys. How many children are in the music hall?

- 7.RP.A.2b: Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.

- Practices–which ones did you use?

Mathematical Practices

- 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 make use of structure.
- Look for and express regularity in repeated reasoning.

Students with this task

- [Video](#)

- What practices did you see students using?
  - 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 make use of structure.
  - Look for and express regularity in repeated reasoning.

The Structure of the Standards

Domain

Standard

Cluster

Ratios and Proportional Relationships   7.RP

Analyze proportional relationships and use them to solve real-world and mathematical problems.

1. Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. *For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction $^{1/2}/_{1/4}$ miles per hour, equivalently 2 miles per hour.*

2. Recognize and represent proportional relationships between quantities.

   a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.

   b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.

   c. Represent proportional relationships by equations. *For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn.*

   d. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate.

3. Use proportional relationships to solve multistep ratio and percent problems. *Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.*

Getting to know the standards

- Elementary: 4NF standards 3 & 4

- Middle grades: 7RP standards 1 & 2

- Secondary: HSF-LE.A standards 1b & 5

Point your browser to…

- https://sites.google.com/site/sccommoncore/home

Progressions

- Narratives prepared by writers of common core
- In teacher-friendly language
- With lots of illustrations
- Include elaborations on definitions
- Include sample tasks

Curriculum Trajectories

- Shows relationship of various topics in CCSSM

- (Not yet available for high school)

Illustrative Mathematics Project

- Sample tasks