Welcome to …

(CO)^{2}MP Elementary

Common Core for Mathematical Proficiency in Elementary Schools

Agenda

- Morning Warm-Up
- Connecting Arithmetic to Algebra
- Pan Balance App
- Lunch
- Math Task – *The Polar Express* to Early Algebraic Thinking
- Learning Environment
- Reflection

Morning Warm-Up

Compare each pair of expressions without carrying out the operations.

Are the expressions equal? Why or why not?
If not, which is larger? How do you know?

$125 + 75$ and $175 + 25$

125×75 and 175×25

Connecting Arithmetic to Algebra

Chapter 3: Generalizing in Arithmetic with a Range of Learners

"The classroom examples in this chapter follow students with a range of strengths and needs in mathematics. These learners cannot and should not be classified as "high," "low," and "average." They respond differently depending on the context of the problem, the questions being asked, and the nature of interactions with the teacher and with their classmates."

-Russell, Shifter, Bastable (2011)

Connecting Arithmetic to Algebra

Read page 24 to page 35.

As you are reading, consider these questions:

- How do teachers engage all students in generalizing about the operations, including those who are struggling with grade-level computation and those who find that content unchallenging?
- What is the value of this work for students with different strengths and needs in mathematics?
- How do students with differing sets of strengths contribute to the thinking of the class as a whole?

Connecting Arithmetic to Algebra

Video – Generalizing about Adding Zero

- What does each student contribute?
- How do students with different learning needs benefit from this discussion?

Connecting Arithmetic to Algebra

Focus Question #3 (pg. 37)

The title of Chapter 3 includes the phrase, "Range of Learners." What questions, comments, or new ideas about the meaning of that phrase have been highlighted by the examples in this chapter? What questions does this raise for you about your own students?

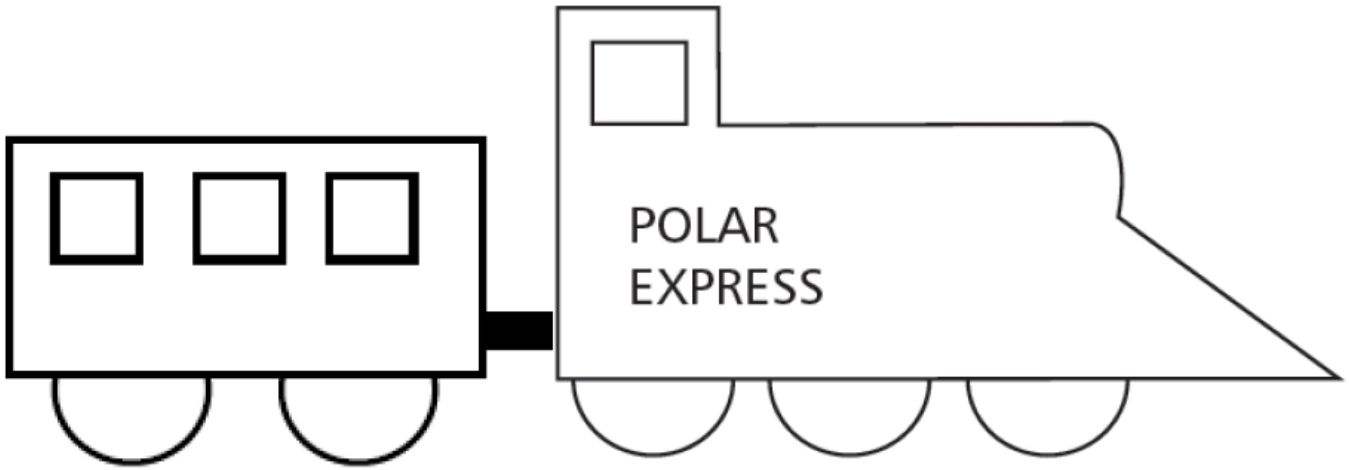
Pan Balance

http://illuminations.nctm.org/Activity.aspx?id=3531

Lunch

Math Task

The Polar Express to Early Algebraic Thinking



Math Professional Teaching Standards

- ***Standard 1:*** Knowledge of Mathematics and General Pedagogy
- ***Standard 2:*** Knowledge of Student Mathematical Learning
- ***Standard 3:*** Worthwhile Mathematical Tasks
- ***Standard 4:*** Learning Environment
- ***Standard 5:*** Discourse
- ***Standard 6:*** Reflection on Student Learning
- ***Standard 7:*** Reflection on Teaching Practice

Reading Assignment – Discuss and Report Out

1. Find and discuss with your partner 3 things that you found significant noting the page and quotes that refer to this significant idea.
2. As a group, decide on one significant idea to share out.

Reflection – Exit Ticket

Take a few moments to reflect on our time of thinking and learning today.

-- Exit Ticket - How will you utilize today's knowledge and experiences in your classroom practice?

Stay Safe

- Please help us put the room in proper order.
- Please leave your name tags for next time.