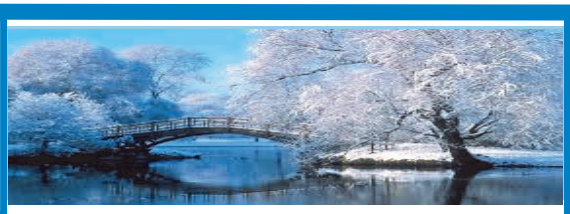
- Pacing and Sequencing Reminder
- Ideas for Factors and Multiples
- Ideas for Division
- PARCC Student Released Samples
- NCTM Article



The definition of a good mathematical problem is the mathematics it generates rather than the problem itself.
~ Andrew Wiles

Middletown Township Elementary Schools — Fourth Grade – Second Quarter 2015

Math Empowers 4

Pacing Guide Reminder!

Don't forget to expose your students to **Number Puzzles** from *Mathematical Thinking at Grade 5*—Investigation 1: Sessions 4-6.

Mathematical Thinking at Grade 5
Investigation 1:
Sessions 1 to 3 (p.2-15) OPTIONAL
Sessions 4 to 6 (p.16-25) REQUIRED

Attached you will find the teacher and student resources you will need as well as an overview for this investigation.

PARCC

Click here to see the **Grade 4 Math PARCC items** *released from the assessment administered last spring. These student released sample responses have been scored and show examples of each score. These would be great to use with your students to show them how to earn the best score on each question.*

Math Rules Expire!

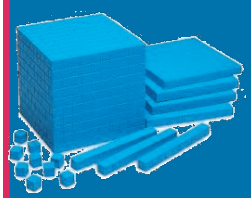
Many rules taught in mathematics classrooms "expire" when students develop knowledge that is more sophisticated, such as using new number systems. For example, in elementary grades, students are sometimes taught that "addition makes bigger" or "subtracting makes smaller" when computing with whole numbers, only to find that these rules expire when they begin computing with integers. Discussing these rules with your students can have a huge impact on their future mathematical success! Read more here: 12 Math Rules That Expire in the Middle Grades.

Some Ideas for 4.OA.B4
Factors and Multiples

- Have students play the "**Array Games**" from Investigations including: "Count and Compare," "Multiplication Pairs," and "Small Array/Big Array."
- Have students find the **prime numbers** from 1 to 100. This is a good activity to integrate the calculator, as an extension activity.
- Have students solve **Number Puzzles** during "Do Now", warm-up, or center activities.
- Have students observe **divisibility patterns** and generate divisibility rules.
- Click and try one of these games:
  - The Factor Game
  - The Product Game
  - Space Rocks

Some Ideas for 4.OA.A2
÷ Division ÷

- Have students use base ten blocks to help them decide how many blocks there would be in each group if they divided. For example, 123 blocks among 3 people. Have them describe how they used the blocks to help them solve the problem and compare their solutions and solution strategies. Then have them mirror the exercise on paper.



- Click and try one of these games:
  - Remainders
  - The Remainders Game

Hope you are having a MATH-TASTIC year!