Leading with Algebra

Welcome to Issue 4 of the Algebra Newsletter!

Welcome to the final issue of the newsletter for the 2014-2015 school year. In addition to updates and our Teacher Spotlight, we included two challenge problems to work on over the summer! Have a great summer!

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Updates from PARCC:

The PARCC Governing Board, made up of the state education commissioners and superintendents, voted on May 21, 2015 to consolidate the two testing windows into one and to reduce total test time by about 90 minutes beginning in the 2015-16 school year. For information, read the press release.

Updates from the Department of Math:

The Department of Mathematics is pleased to share the list of recommended instructional materials to support instruction aligned to the CCSSM. These materials were reviewed by teachers, administrators, network staff, and central office teams from across the district.

The recommended options for Algebra courses include:

Houghton Mifflin Harcourt: *HMH Algebra*

It's About Time: *Meaningful Math (IMP)*

Pearson: *CME*

For more information, visit the math instructional materials page on the Knowledge Center.

Summer Math Challenge

A commuter is picked up by her husband at the train station every afternoon. The husband leaves the house at the same time every day, always drives at the same speed, and regularly arrives at the station just as his wife's train pulls in. One day she takes a different train and arrives at the station one hour earlier than usual. She starts immediately to walk home at a constant speed. Her husband sees her along the road, picks her up, and drives her the rest of the way home. They arrive there 10 minutes earlier than usual. How many minutes did she spend walking? If the wife walks 4 miles an hour, how fast does the husband drive?

Source: M. Munem and D. Foulis *Algebra and Trigonometry with Applications* 1ˢᵗ edition, NY: Worth, 1982.

Math Challenge of the Month

Two cylindrical candles of the same height but different diameters are lit at the same time. The first is consumed in 4 hours and the second in 3 hours. Assuming that they burn at a constant rate, how long after being lit was the first candle twice the height of the second candle?

Source: http://www.math.sc.edu

Teacher Spotlight: Bob Foote, 8th Grade Math Teacher, Locke Elementary School

A conversation about using the Formative Assessment Lesson [Representing and Combining Transformations](#) which addresses Common Core Standard [8.G.A](#).

Q: What were the students learning in this FAL and where did it fit in your instructional unit?

My students were studying transformations as part of their geometry unit. We had some lessons in transformations already, and I wanted to find out how much they had learned. It helped me to know where to go next. I use FAL's midway or close to the end of a unit.

Q: Why do you use FALs? What did you like about this particular lesson?

The people who wrote them really knew what they were doing! They are well-researched and anticipate student responses and misconceptions. I feel as if they were almost written for me as a teacher. This particular FAL is the best lesson I have that covers the topic of transformations.

**Q: How did you assess your students?**

I wrote comments on the pre-assessment. During the activity itself, I walked around the room and observed how kids think. The true test was the final post-assessment which I graded and recorded.

Q: What advice do you have for teachers who are interested in using a Formative Assessment Lesson for the first time?

Don't be afraid to put time in because FALs are well worth it. Some teachers are resistant because there is a lot of prep (e.g. making transparencies and cut-outs in this case), and you need to read the thick booklet. But it is all laid out for you and makes for a great lesson. Kids are discovering as they go along, and it is much more powerful than just telling them.

Summer Reading

Recently published, *[Making Number Talks Matter](#),* a book by Cathy Humphreys and Ruth Parker, is a guide for using number talks in your classroom. Number talks are an invaluable 10 minute daily routine that build mathematical reasoning, encourage mental math, develop critical communication skills, and even encourage divergent thinking. The book shows to how to make these productive mathematical discussions happen in your classroom.
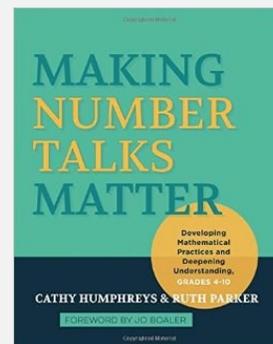
Additionally, we also recommend the new edition of Jo Boaler's book *[What's Math got to do with it? How Teachers and Parents Can Transform Mathematics Learning and Inspire Success](#)*. This inexpensive paperback includes new research on the psychology and neuroscience of learning and provides even more practical advice for teachers and parents for helping all children to engage deeply with mathematics.