Math Solutions®
FOUNDED BY MARILYN BURNS

SOMETHING TO TALK ABOUT: PRODUCTIVE TALK IN THE MATHEMATICS CLASSROOM

Le'Vada Gray
Friday, October 23, 2015
12:30 PM – 1:30 PM
Atlantic City Convention Center, 402

MP 3 : Construct viable arguments and critique the reasoning of others.

"Mathematically proficient can listen to the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments."

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Which Does Not Belong?

- 2, 6, 5, 10
- 2, 3, 15, 23
- 1/2 , 2, 8, 16
- 9, 16, 25, 43

Processing

- How did Math Talk support you communicating about your mathematical thinking?

Positive Influences of Math Discourse

- Talk can reveal understanding and misunderstanding.
- Talk supports thinking and learning.
- Talk supports deeper reasoning.
- Talk supports language development.
- Talk supports the development of social skills.

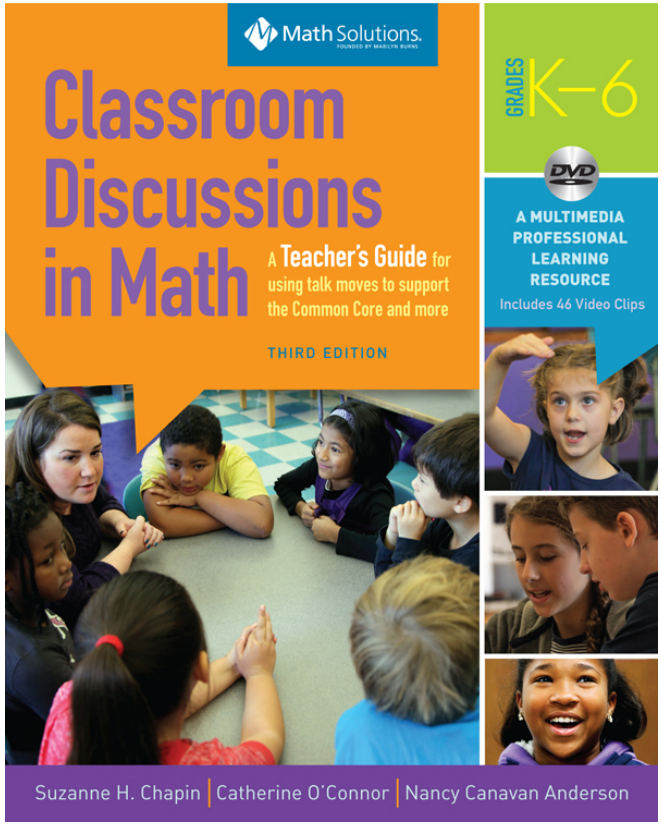
Project Challenge

Scores on TOMA-2	Beginning	After 2 Years
Below Average	73%	0
Average		23%
Above Average	23%	36%
Superior/ Very Superior	4%	41%

Classroom Discussions: Using Math Talk to Help Students Learn. Math Solutions Publications, 2001.

Talk Moves

- Revoicing
- Repeating
- Reasoning
- Adding on
- Waiting



Classroom Discussions in Math: A Teacher's Guide for using talk moves to support the Common Core and more, 3rd Edition by Suzanne H. Chapin, O'Connor, and Anderson. Math Solutions Publications, 2013.

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Tell Me All You Can

- The answer is going to be around/about _____ because _____.
- The answer is going to be close to _____ because _____.
- The answer is going to be between _____ and _____ because _____.
- The answer is going to be greater than _____ because _____.
- The answer is going to be less than _____because _____.

12 x 7

- The answer is going to be about ___ because ____.
- The answer is going to be between ___ and ___ because ___.
- The answer is going to be less than ___ because ___.
- The answer is going to be greater than ___ because ___.

5 x 2/3

- The answer is going to be around/about _____ because _____.
- The answer is going to be close to _____ because _____.
- The answer is going to be between _____ and _____ because _____.
- The answer is going to be greater than _____ because _____.
- The answer is going to be less than _____because _____.

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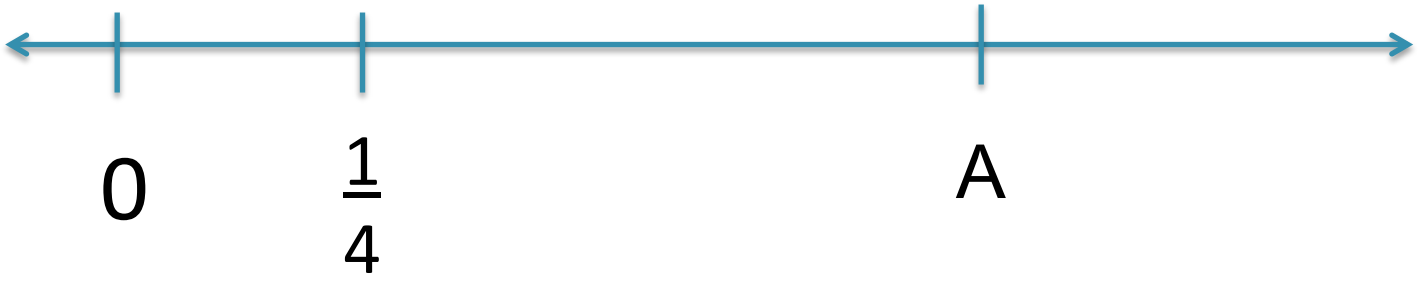
861÷8	29 + 19	$2/3 + 3/4$
75 X 12	22 X 65	345 + 298
920 X 0.8	35 X $3/4$	25% of 80

- The answer is going to be about ___ because ____.
- The answer is going to be between ___ and ___ because ___.
- The answer is going to be less than ___ because ___.
- The answer is going to be greater than ___ because ___.

Processing
Tell Me All You Can

- How would this activity support students constructing viable arguments and critiquing the reasoning of others?

Which is a better choice, $3/5$ or $7/8$ for the location marked A on the number line?



Processing
Fractions on a Number Lines

- How did the teacher use Talk Moves to support and assess student understanding?

- What mathematical concepts and thinking did students use to solve this problem?

Which is a better choice, $\frac{3}{5}$ or $\frac{7}{8}$?

""I Know That 7/8 is greater than 3/5…" in Classroom Discussions in Math: A Teacher's Guide for using talk moves to support the Common Core and more, Grades K–6.

Processing
Fractions on a Number Lines

- How did the teacher use Talk Moves to support and assess student understanding?

- What mathematical concepts and thinking did students use to solve this problem?

Talk Formats

- Whole-class discussion
- Small-group discussion
- Partner talk

Four Steps to Productive Classroom Discussions

Step 1: Helping individual students clarify and share their own thoughts

Step 2: Helping students orient to the thinking of other students

Step 3: Helping students deepen their reasoning

Step 4: Helping students to engage with the reasoning of others

Reflection: Math Talk in My Classroom

- How can I use Talk Moves and Talk Formats to support my students to construct viable arguments and critique the reasoning of others?
- What can I do so that Talk Moves are a habit of practice in my classroom?

High Quality Math Talk

"Our goal is not to increase the **amount** of talk in our classrooms, but to increase **the amount of high quality talk** in our classrooms—the mathematical productive talk."

–Classroom Discussions: Using Math Talk to Help Students Learn, 2009

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Thank You

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