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NCTM Boston
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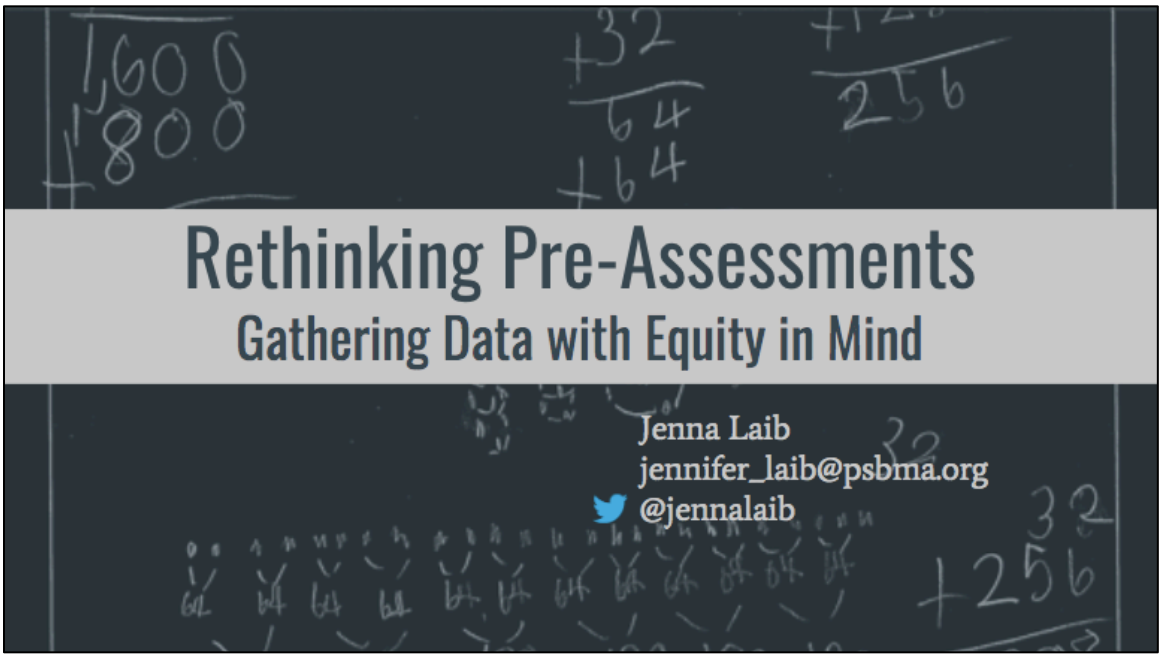
Rethinking Pre-Assessments: Gathering Data with Equity in Mind



http://bit.ly/laibnctmboston19

You're at the right presentation if...

- You believe that looking at student thinking is important to planning future instruction.
- You want to explore assessment strategies that take you deeper into student thinking.
- You care about equity as an issue for *all* children, not just some children.

Student A (Ayesha)

Find the product.

❶

		4	3
×		4	3
	1	2	9
1	7	2	☺
1	8	4	9

❷

		8	0
×		7	5
	4	0	0
5	6	0	0
6	0	0	0

❸

		2	3
×		1	3
	6	9	
2	3	0	
2	9	9	

Solve.

❹ Stephen read for 30 minutes each night. He read 13 pages per night. How many pages had he read after 14 nights?

13 × 14 = 52 + 130 = 182

182 pages

❺ Julie unpacked 22 boxes of library books. Evan unpacked 19 boxes of library books. Each box held 28 books. How many books did they unpack?

22 × 28 = 176 + 440 = 616

19 × 28 = 562 + 380 = 942

616 + 942 = 1558

1558 books

Student B (Brayden)

Find the product.

❶

		4	3
×		4	3
1	1	6	9

❷

		8	0
×		7	5
	4	0	0

❸

		2	3
×		1	3
	3	6	9

Solve.

❹ Stephen read for 30 minutes each night. He read 13 pages per night. How many pages had he read after 14 nights?

30

13 + 14 = 32

32 pages

❺ Julie unpacked 22 boxes of library books. Evan unpacked 19 boxes of library books. Each box held 28 books. How many books did they unpack?

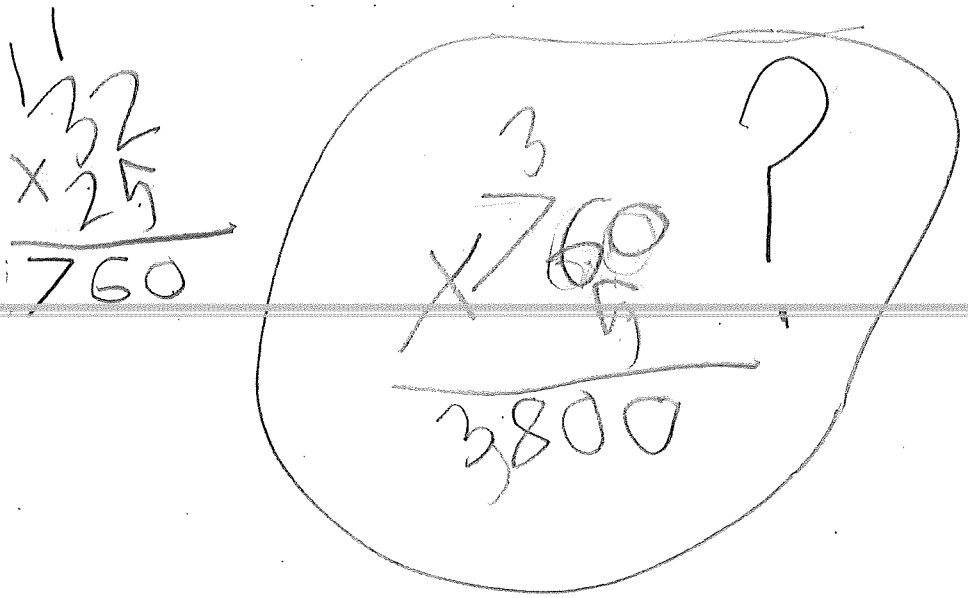
22 * 19 = 28

28 books

❻ Mr. Myer's class is planning a field trip to the [illegible]

Student E (Elena)

Show your work



Student C (Cadence)

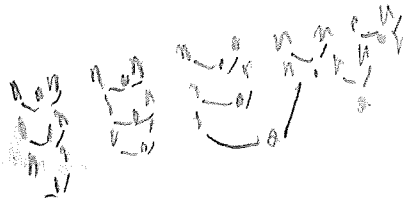
Show your work

2400 — answer

800
+800
1600
+800
2400

32
+32
64
+64
128

128
+128
256



64 64 64 64 64 64 64 64 64 64 64 64

128 128 128 128 128 128

256 256 256

256 32

512 288

512 + 288

800
+800

32
32
+256
288

Student D (Dev)

Show your work

1 2 3 4 5 6 7 8
25, 50, 75, 100, 125, 150, 175, 200
9 10 11 12 13 14 15 16
225, 250, 275, 300, 325, 350, 375, 400
17 18 19 20 21 22 23 24
425, 450, 475, 500, 525, 550, 575, 600
25 26 27 28 29 30 31 32
625, 650, 675, 700, 725, 750, 775, 800

$25 \times 32 = 800$

$800 + 800 = 1,600$

$1,600 = 2,400$

Student F (Fatima)

Show your work

$32 \times 25 = 800$

$800 + 800 = 1600$

$64 + 64 = 128$

$32 + 32 = 64$

$1600 + 800 = 2400$

$128 + 128 = 256$

$256 + 256 = 512$

$512 + 288 = 800$

$256 + 32 = 288$

$800 \times 3 = 2400$

Student G (Grace)

Show your work

32×25

30×25 = 750 + 50 = 800×3

800×2 = 1600

800×3 = 2400

2400 ÷ 10 = 240

$120

1200 − 15

$1184

$1184

2400 donuts

Student H (Han)

Show your work

5	10	15	20	25	30		
100	200	300	400	500	600	700	800
4	8	12	16	20	24	28	32

$$\begin{array}{r} {\scriptstyle 1\ \ 1} \\ 640 \\ +\ 640 \\ \hline 1{,}420 \end{array}$$

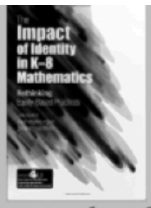
16

$$\begin{array}{r} 800 \\ 800 \\ +\ 800 \\ \hline 2{,}400 \end{array}$$ doughnuts

2,400 ÷ 12 = 200 dollars

1,000 nickels

Five Principles for Equity Based Teaching



Aguirre
Mayfield-Ingram
Martin

1) **Go deep with the mathematics**
   Develop students' conceptual understanding, procedural fluency, and problem solving and reasoning.
2) **Leverage multiple mathematical competencies**
   Use students' different mathematical strengths as a resource for learning.
3) **Affirm mathematics learners' identities**
   Promote student participation and value different ways of contributing.
4) **Challenge spaces of marginality**
   Embrace student competencies, diminish status, value multiple mathematical contributions.
5) **Draw on multiple resources of knowledge (math, language, culture, family)**
   Tap students' knowledge and experiences as resources for mathematics learning.

Aguirre, J., Mayfield-Ingram, K., & Martin, D. *The Impact of Identity in K–8 Mathematics Learning and Teaching: Rethinking Equity-Based Practices*. Reston, VA: National Council of Teachers of Mathematics, 2014.

More resources cited/available at:
http://bit.ly/laibnctmboston19