Warm-Up Activity:

Choose a station and respond to the questions provided.

Math Assessment Project: A Collaborative Approach to Math Assessments for ELs

Boston Public Schools:
Office of English Learners & Math Department

MATSOL Conference

May 31, 2019

AGENDA

- Warm-Up Activity
- Introduction and Overview
- Panel Discussion: Math Assessment Project
- Looking at Student Work
- Next Steps: Implications for Placement and Instruction
- Questions and Share Out

Collaborative Process in Designing and Implementing Newcomer Assessments

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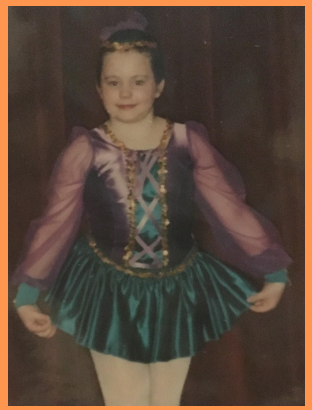


Genevieve McDonough
English Learner Instructional Specialist

BPS Problem of Practice

BPS does not consistently provide authentic learning opportunities for our students who are most marginalized to develop into self-determined, independent learners, able to pursue their aspirations. Our failures lead to disengaged students and significant achievement gaps.

Consideration of Students' Culture and Language When Designing and Administering Mathematics Assessment

- ELs can encounter challenges with understanding the language in which the math problems and directions are written.
  a. Context Matters: Snow, Marathon, Holidays, Football vs Soccer, etc.
  b. Words can have a mathematical meaning AND an everyday meaning: Mean, Operation, Power, Root, Table

- Some mathematical symbols serve different functions in different cultures

  a. Commas and periods vary from culture to culture

  b. Metric vs. US Customary,

  c. Fahrenheit vs. Celsius

How do you say the following numbers?

3.456

3,456

What do you notice about these 3 problems?

$12 \div 3$

$3\overline{)12}$

$12 \mid 3$


"Students show up with incredible strengths and assets. Kids are capable of much more than we think."
UW-MADISON PROFESSOR
GLORIA LADSON-BILLINGS

RESEARCH

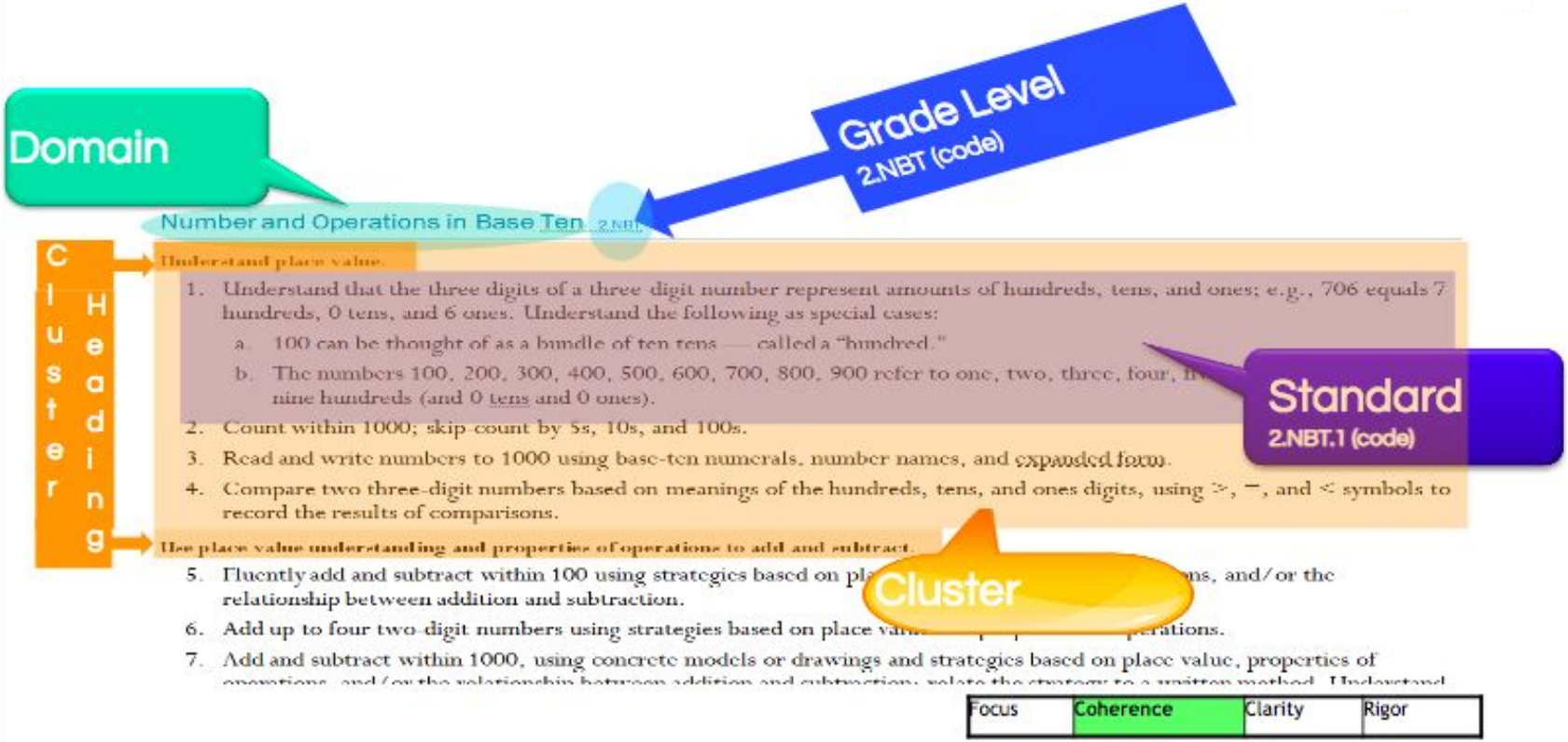
Abundant research has documented the significant outcomes that are possible when schools and teachers systematically address obstacles to success in mathematics for students from historically underserved populations.

A social justice approach works to transform mathematics from a gatekeeper to a gateway, democratizing participation and maximizing education advancement that equitably benefits all children rather than a select few.

from NCSM/TODOS Position Paper: *Mathematics Education Through the Lens of Social Justice: Acknowledgment, Actions, and Accountability*

What are the mathematical understandings and fluencies we need to assess ?

Format of Pre-K-8 Standards



Eliciting and Assessing the Mathematical Thinking of ELs

#1

There are 10 coins in all. There are 3 coins on the table.

Some coins are in the bag. How many coins are in the bag?

#2

What number represents the same amount as 5 tens + 2 ones?

Write the number that has 3 hundreds, 0 tens, 5 ones.

#4

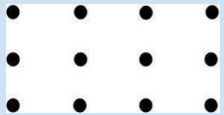
6 x 9 = _____

56 ÷ 7 = _____

#3

Which of the following are equal to the number of dots in the picture below?

Circle the **two** number expressions that apply.



3 + 3 + 3 +3

3 + 4

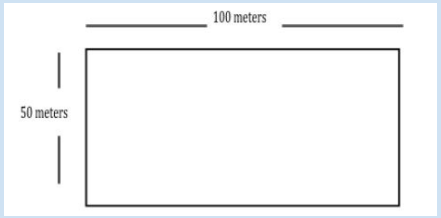
4 + 4 + 4

4 + 4 + 4 + 4

#5

The Obama School has a soccer field

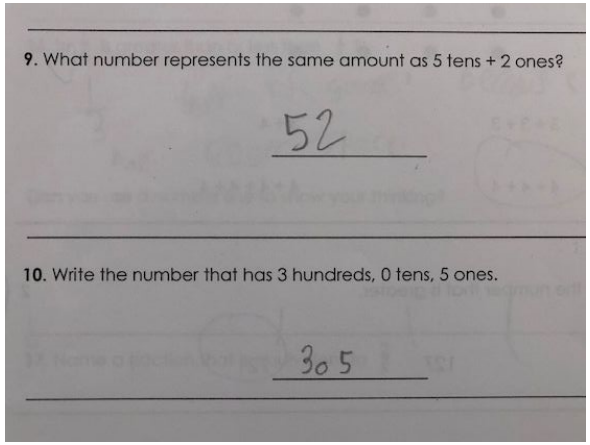
Here are the measurements of its soccer field:

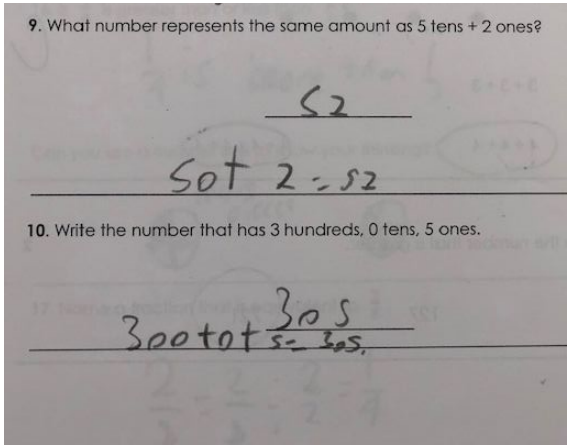


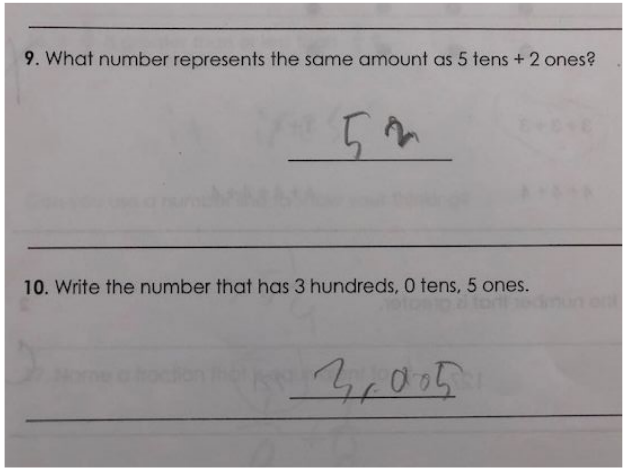
What is the perimeter of the soccer field?

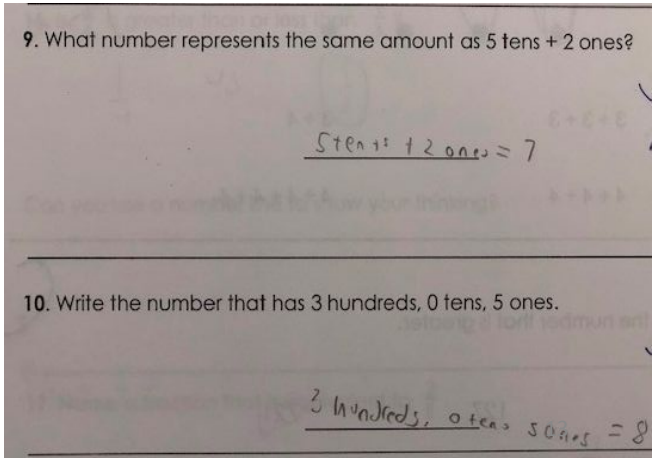
Looking at Student Work

Grade 2 Standards









Activities that Expand Teachers' Understanding of Performance Assessments

Please see the recommendations below from the research of Linda Darling-Hammond and Beverly Falk for ideas on how to begin a similar project in your district or school:

- Ensure that assessment is embedded in a learning system.
- Include performance tasks as a part of assessment.
- Make sure that criteria and rubrics for scoring tasks are clear and explicit for both students and teachers.
- Involve teachers in collaborative scoring sessions.
- Expand opportunities for teachers to engage in analysis of student work.
- Provide teachers with coaching and professional development around assessment.
- Build Communities of Practice.
    - **Source:** Darling-Hammond, L., & Falk, B. (2013). Teacher learning: How student-performance assessments can support teacher learning. Washington, DC: Center for American Progress, p. 29.

Resources

- Massachusetts Curriculum Framework for Mathematics (2017): http://www.doe.mass.edu/frameworks/math/2017-06.pdf
- Illustrative Mathematics https://www.illustrativemathematics.org/
- WIDA Math Standards https://wida.wisc.edu/sites/default/files/resource/2012-ELD-Standards.pdf
- Council of Greater City Schools Parent Roadmaps: https://www.cgcs.org/Page/366
- National Council of Teachers of Mathematics. (2014). *Principles to actions: ensuring mathematical success for all.* Reston, VA :NCTM, National Council of Teachers of Mathematics.

Questions and Share Out

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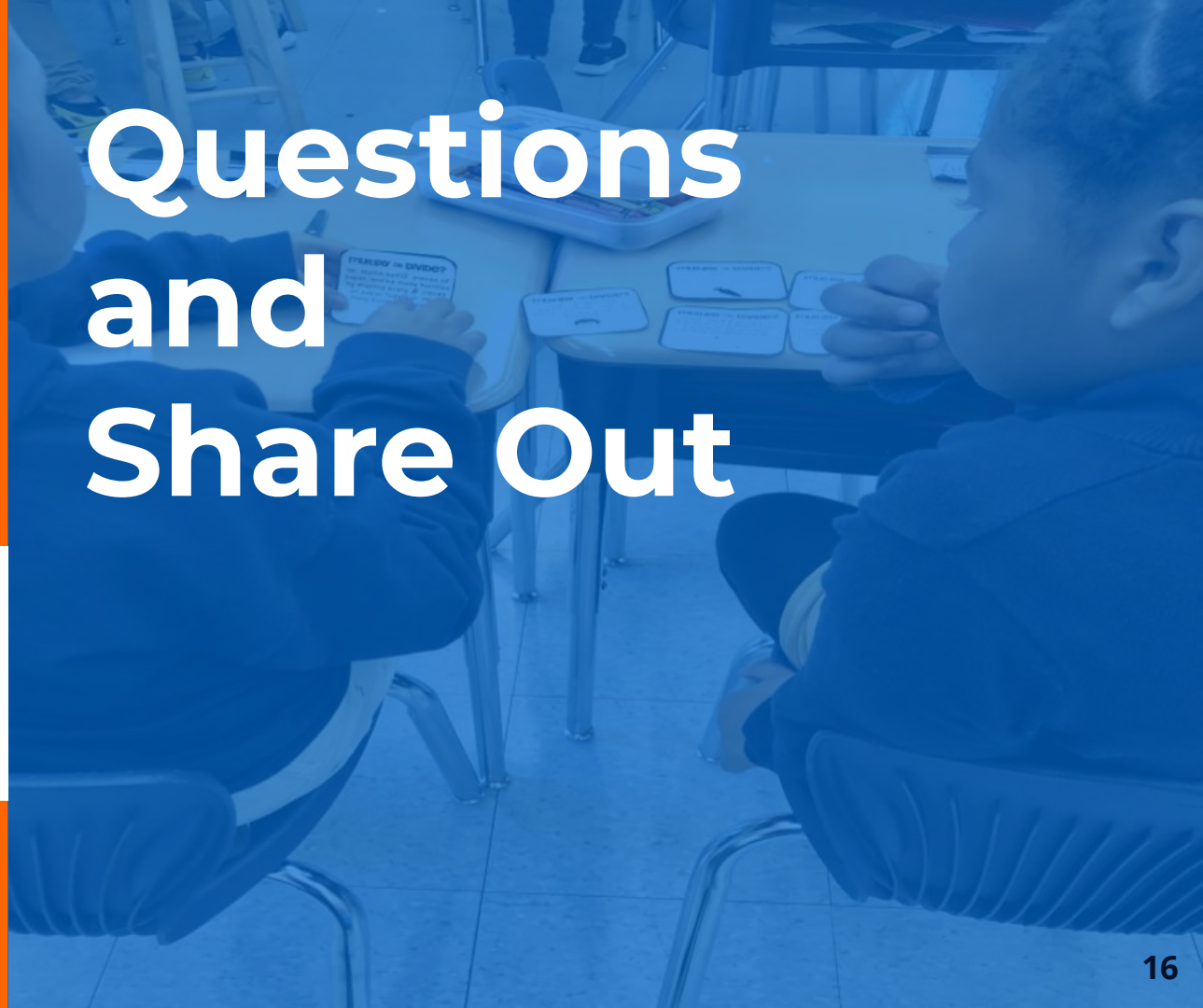

Thank You!

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