Orton-Gillingham Math

WEF Grant

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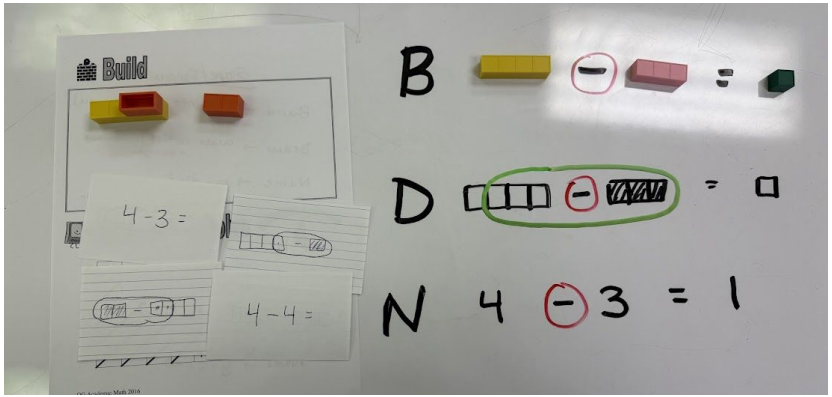
What is Orton - Gillingham math?

Orton-Gillingham math is a multisensory, structured approach to teaching mathematics that adapts the proven principles of the OG literacy method—originally designed for dyslexia—to help students who struggle with numbers (dyscalculia) or math anxiety.



Why Orton-Gillingham math?

- Hands-on method that provided an outlined process for instruction.
- Emphasises conceptual understanding through specific progressions (BDN/CRA) vs. only focusing on procedural fluency.
- Focuses on the “why” of the number sense, rather than asking students to follow rules they might not understand.

The Professional Development

OG Basics

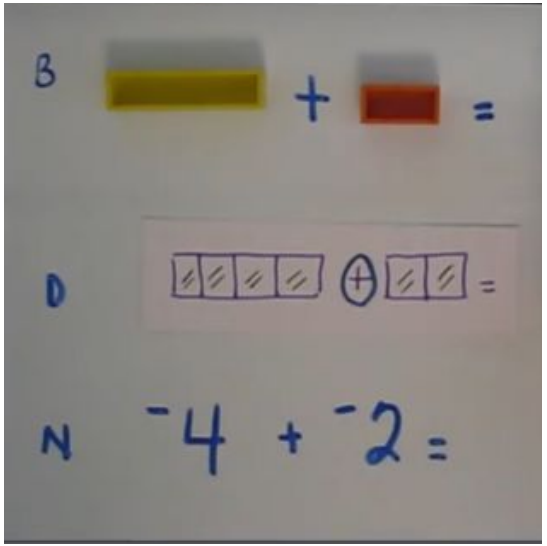
- The language of math
- OG lesson plan basics
- Build-Draw-Name and Concrete-Representational -Abstract
- Basic operations: addition, subtraction, multiplication, division
- Word problems

OG Algebra

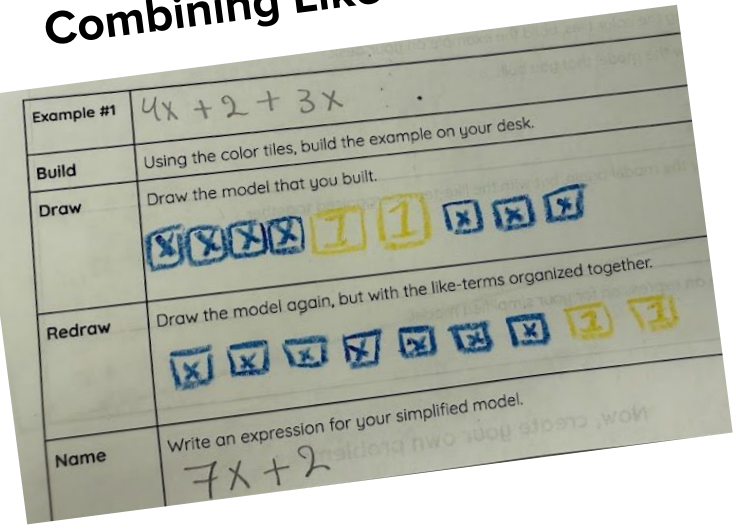
- Integers (positive and negative numbers)
  - Comparing
  - Adding and subtracting
  - Multiplying and dividing
- Exponents
- Variables
- Algebraic expressions
- Combining like terms

Different Modalities & How We Learn

- Concrete-Representational-Abstract (CRA)
- Visual, Auditory, Kinesthetic, Tactile (VAKT)
- Build-Draw-Name (BDN)

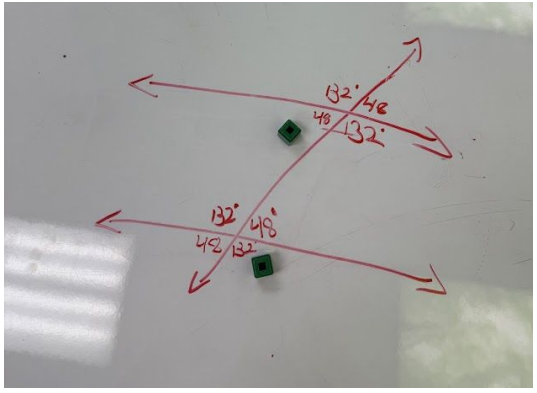


Combining Like Terms

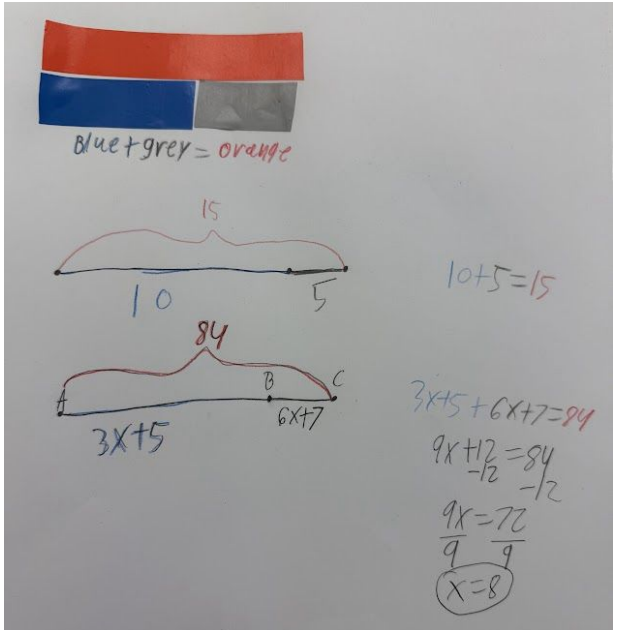


Example #1	4x + 2 + 3x
Build	Using the color tiles, build the example on your desk.
Draw	Draw the model that you built.
Redraw	Draw the model again, but with the like-terms organized together.
Name	Write an expression for your simplified model. 7x + 2

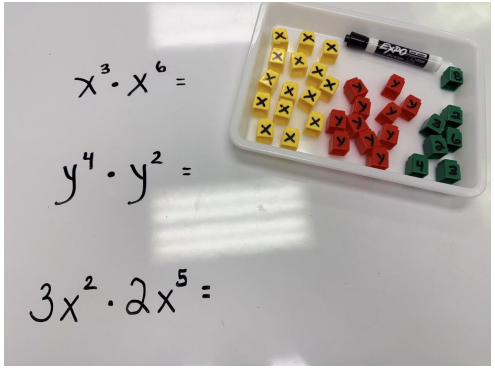
Parallel lines and angle relationships

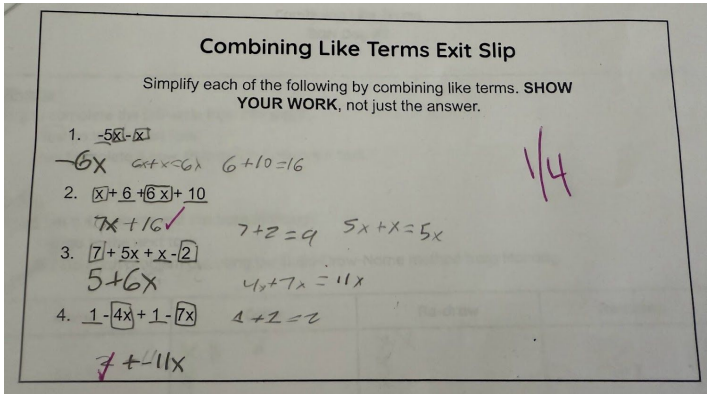


Segment Addition Postulate



Exponent Rules





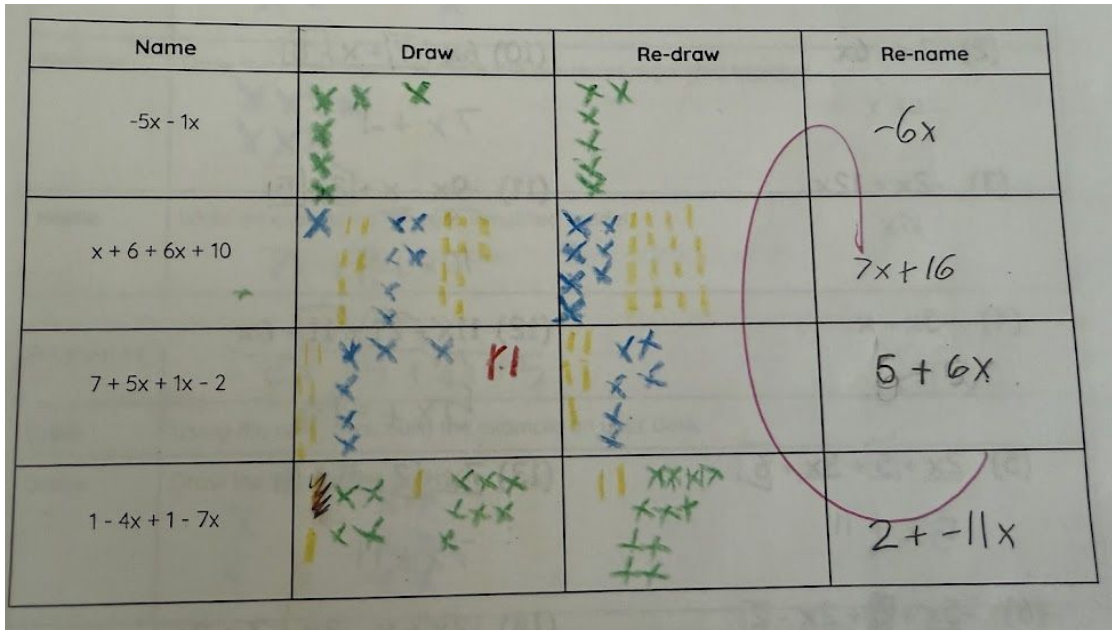
Combining Like Terms Exit Slip

Simplify each of the following by combining like terms. **SHOW YOUR WORK**, not just the answer.

1. -5x - x
   -6x -5x + -1x = -6x 6 + 10 = 16
2. x + 6 + 6x + 10
   7x + 16 ✓ 7 + 2 = 9 5x + x = 5x
3. 7 + 5x + x - 2
   5 + 6x 4x + 7x = 11x
4. 1 - 4x + 1 - 7x
   2 + -11x 1 + 1 = 2

1/4

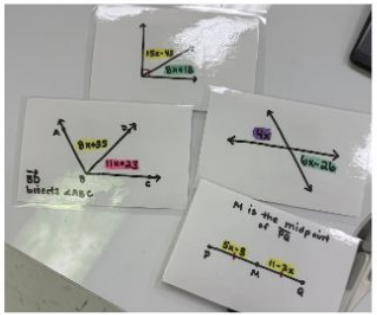
Student revision opportunities:



Name	Draw	Re-draw	Re-name
-5x - 1x			-6x
x + 6 + 6x + 10			7x + 16
7 + 5x + 1x - 2			5 + 6x
1 - 4x + 1 - 7x			2 + -11x

Next Steps

- With our new learning as inspiration, we plan on adjusting lessons throughout the year to model this instructional design
- Through coteaching assignments and PLGs, we will share our insights with colleagues to embed these methodologies into our lesson structures.



Writing Equations from Basic Geometry Relationships

Based on the picture, identify the relationship and write an equation.

Relationships *might* include:

- Complementary angles
- Vertical angles
- Linear Pair
- Supplementary angles
- Angle Bisector
- Midpoint

Picture	Relationship	Equation

Thank you!

We are extremely appreciative of the WEF and your generous support of our grant.

We look forward to continuing our collaboration with one another while implementing this methodology, and are excited for our students' success.