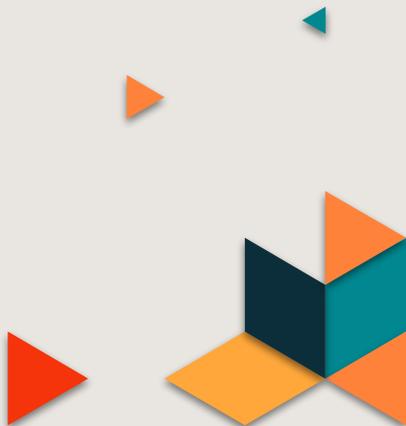




# Elementary Math TOSA

Lincoln County School District





# Who

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I am a math educator who believes strongly that ALL students have the potential to understand mathematics from a deep level and ALL teachers have an important role in the process.



# What



Mentor and support teachers  
to shift their math  
instruction...

from → teaching mathematical topics  
as procedures

to → facilitating student engagement  
that will lead to a deeper  
understanding of mathematics



# What



It's not just about getting the "right answer" when solving math problems. It's about giving students time to think, question, and process the solution.

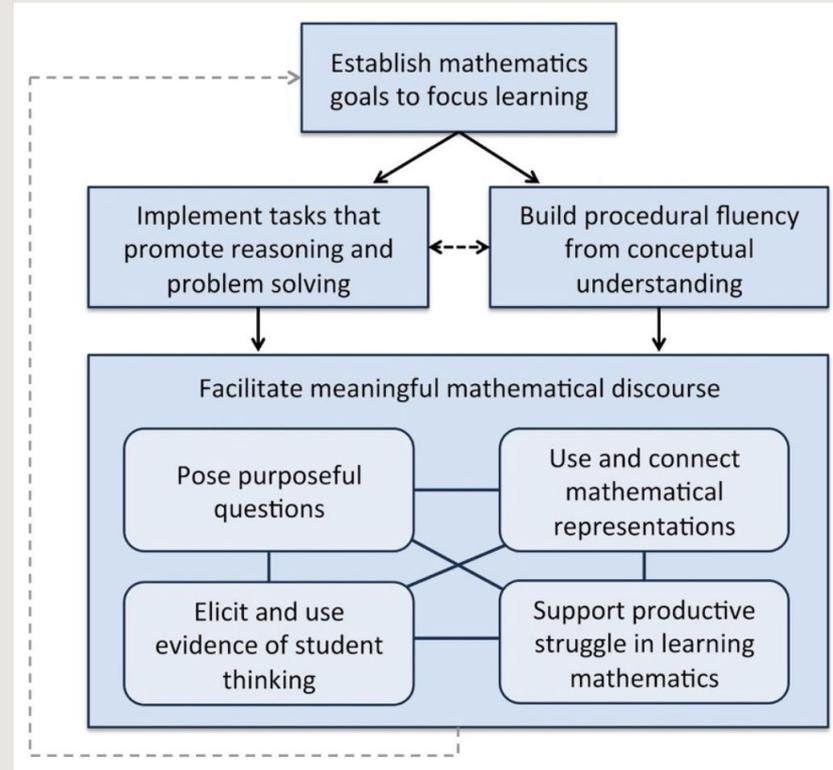
In addition, this student-centered approach allows students to form a positive math identity through their elementary years.



# Why

Develop and Implement ways for teachers to adopt the National Council of Teachers of Mathematics (NCTM) Eight Effective Mathematics Teaching Practices

The implementation work that is being done presently engages teachers in these eight effective mathematics teaching practices.



# How



- 
- ❖ Individual One-on-One Coaching



- 
- ❖ Math Coalition Team
  - ❖ Grade Level Teams
  - ❖ Site Specific Support



- 
- ❖ District Level Professional Development



Kinder

Shannon Wellsted & Crista Adovnic

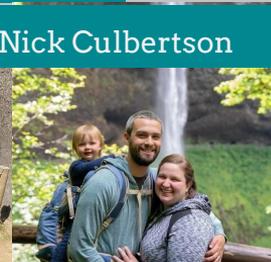


2nd Grade Nicole Benardi & Jenn Woodley



4th Grade

Kath Proctor & Nick Culbertson



1st Grade

Rachel Baracosa & Kate Sizemore



# Elementary Math Coalition Team

5th Grade

Liz Pettinger & Guy Larson



3rd Grade Robin Kirsch & Emily Rocco



6th Grade

Faith Forshee & Cherie Harbour



# Procedural Versus Conceptual Understanding



**Addition**

$$\begin{array}{r} 21,045 \\ 9,362 \\ \hline 7 \text{ (5+2)} \\ 100 \text{ (40+60)} \\ 300 \text{ (0+300)} \\ 10,000 \text{ (1000+9000)} \\ 20,000 \text{ (0+20000)} \\ \hline 30,407 \end{array}$$

**Partial Sums**

connecting  $\rightarrow$

$$\begin{array}{r} 21,045 \\ 9,362 \\ \hline 30,407 \end{array}$$

**Subtraction**

$$\begin{array}{r} 21,045 \\ - 9,362 \\ \hline 21,045 \end{array}$$

$20,000 + 0 + 400 + 0 + 7$   
 $- 9,000 + 300 + 60 + 2$   
 $\hline 20,000 + 1000 + 0 + 40 + 5$

Number line showing jumps: 21,045, 21,047, 21,107, 21,407, 30,407. Jumps are labeled 2, 60, 300, 9000.

As students explore and use problem solving strategies, they are not solely building new strategies, but also building on to previously learned strategies from previous standards and grades.

# Procedural Versus Conceptual Understanding

Comparing Numbers

$$328,498 > 324,986$$

hundred thousands	ten thousands	thousands	hundreds	tens	ones
3	2	8	4	9	8
3	2	4	9	8	6

Same    Same     $8 > 4$

$$300,000 + 20,000 + 8,000 + 400 + 90 + 8$$

$$300,000 + 20,000 + 4,000 + 900 + 80 + 6$$

Same    same     $8,000 > 4,000$

328498	>	Greater than
324986	<	Less than
$8 > 4$	=	equal to

Addition

$$64,924 + 15,368$$

$$64,924 = 60,000 + 4,000 + 900 + 20 + 4$$

$$+ 15,368 = 10,000 + 5,000 + 300 + 60 + 8$$


---


$$80,292 = 70,000 + 9,000 + 1,200 + 80 + 12$$

64,924	
+ 15,368	
12	→ 4 + 8
80	→ 20 + 60
1,200	→ 900 + 300
9,000	→ 4,000 + 5,000
70,000	→ 60,000 + 10,000
80,292	

64,924	
+ 15,368	
80,292	

Teachers focus learning goals on fluency over time, give students opportunities to engage in productive struggle and discourse by building engaging, student-centered learning opportunities.

# How our students are engaged in Math



What teachers are saying about their students': "A big part of what we've looked at this year, and worked to instill in students, is student-agency. Asking the questions then letting students do the thinking. Be more of a guide than a lecturer. Having them work in teams and share their learning orally. For many of my students this shows up in longer retention of the steps and strategies needed to solve problems."

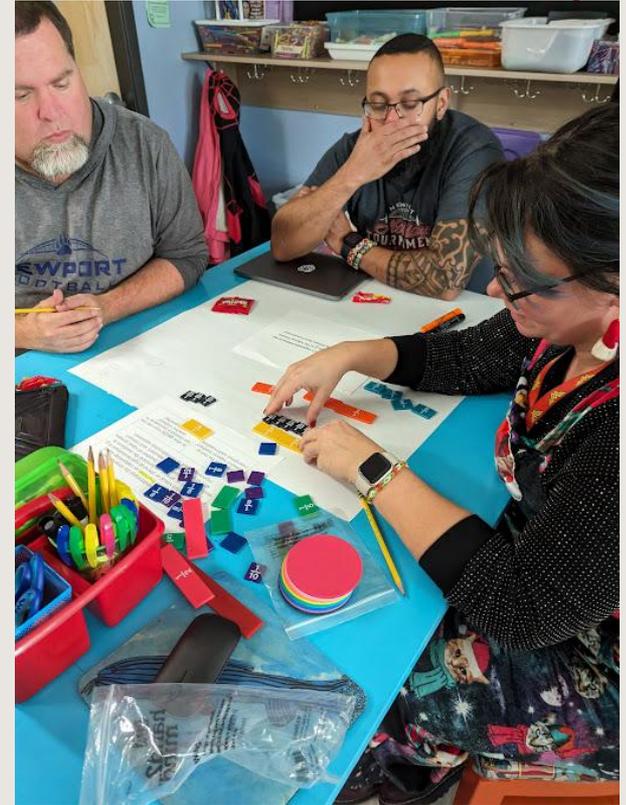




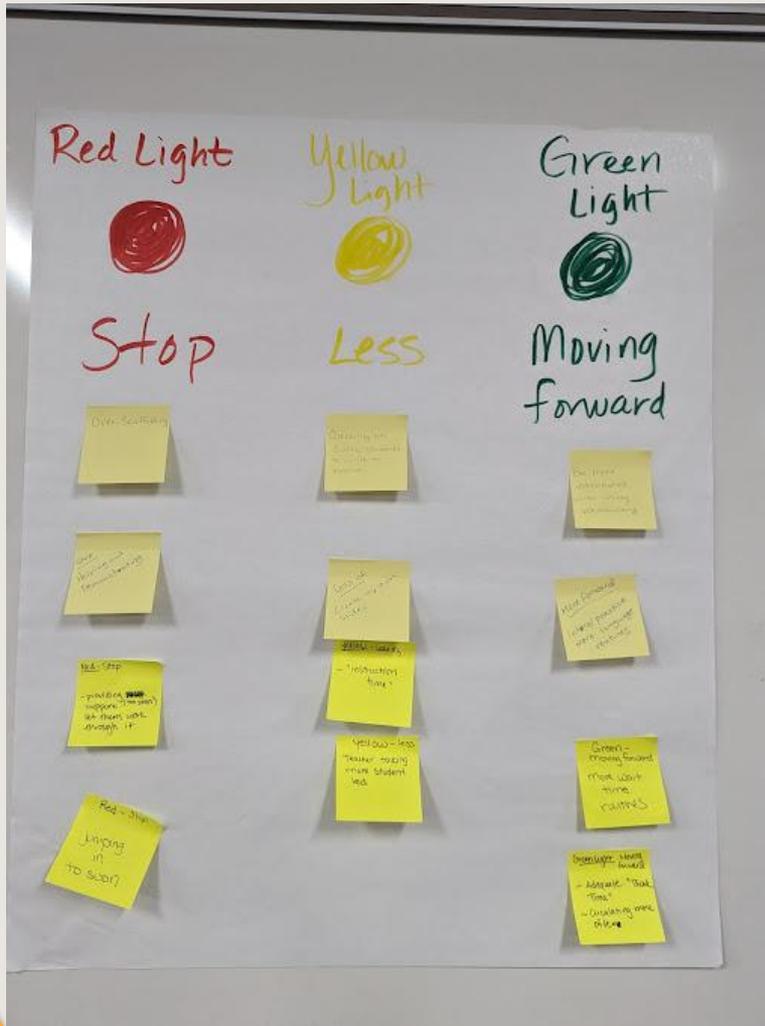




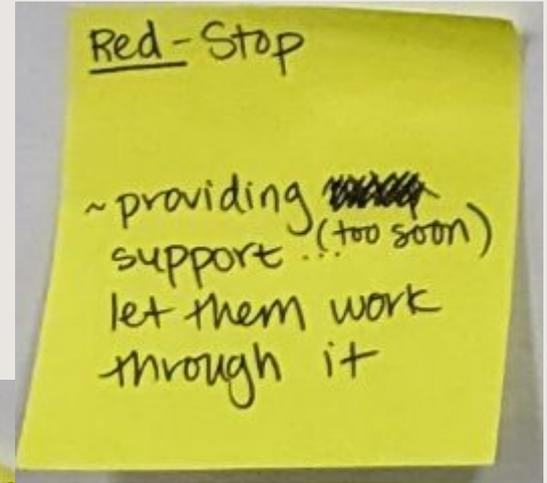
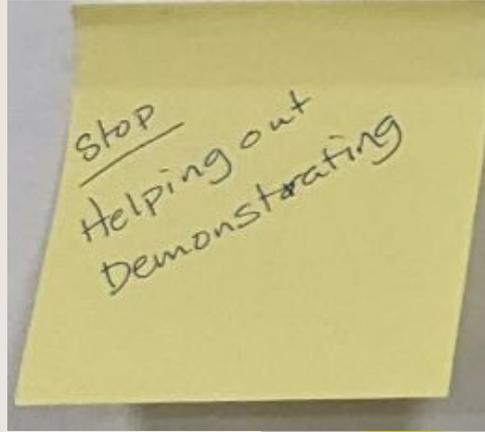
# How our teachers are engaged in Math



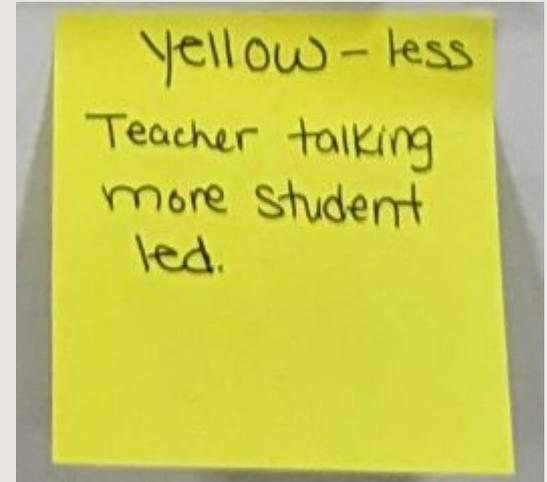
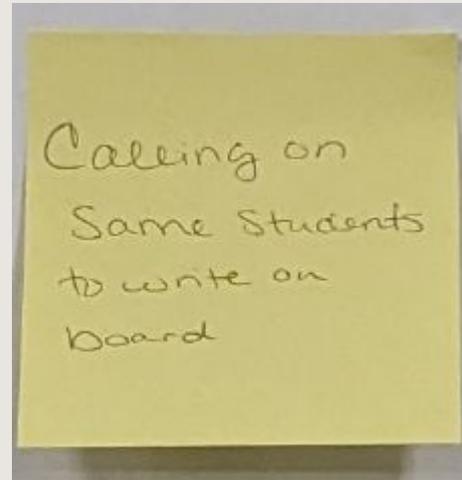
# How our teachers are engaged in Math



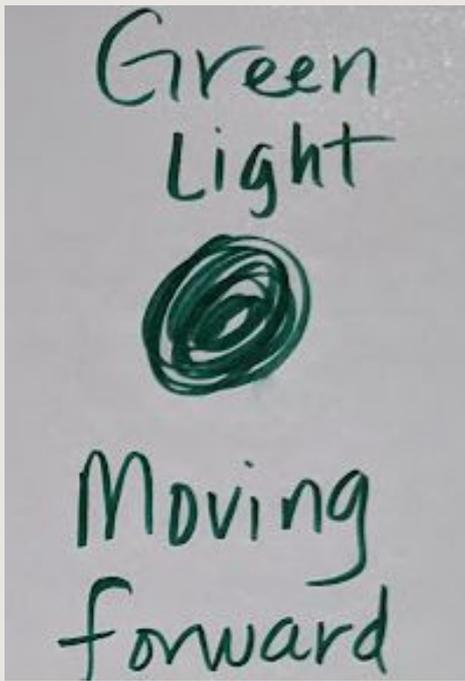
# How our teachers are engaged in Math



# How our teachers are engaged in Math



# How our teachers are engaged in Math



Be more intentional with using vocabulary

Move forward  
Inter/practice more language routines

Green Light - Moving forward

- ~ Adequate "Think Time"
- ~ Circulating more often.

Green - moving forward

more wait time routines





# What our teachers are saying



“i-Ready curriculum was new to 6th grade this year. Jenn provided a full day of training on using the resources, planning the lessons, and instilling critical thinking strategies into the activities. Having also worked on the math team with her, we've been able to create teacher-led opportunities to encourage and guide our grade level teams in their math instruction.”



# What our teachers are saying

“Having been diagnosed with dyslexia during my education, I was forced to use different strategies and resources in order to be successful. Throughout my teaching career, as I had to learn new processes and new curriculums, I have continued to utilize these skills. Jenn Loseke has been an invaluable resource. I have been working with her regularly for the last year and a half and both my students as myself have benefited from this relationship as I have become a more a proficient math teacher and my students have shown consistent growth.”



**Thank you!!**

**Jenn Loseke**

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Elementary Math TOSA (K-6)

