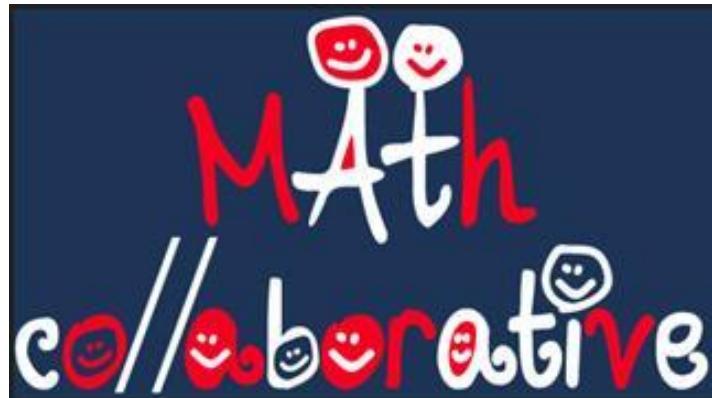


# Word Problems on Fire: Igniting Student Engagement

So glad you are here.



Karen Hensen  
Resource Teacher





# Georgia Council of Teachers of Mathematics

Are you good at capturing the moment?



#GMC2023  
  
Don't forget to tag  
**@GCTM.**

Email pics to...  
[gammillgctm@gmail.com](mailto:gammillgctm@gmail.com)  
for  
possible inclusion in  
*eReflections*.



# ONE BIG HAPPY



IT'S ALL ABOUT APPLES  
AND ORANGES... AND  
SHARING YOUR CANDY, AND  
HAVING MONEY IN YOUR  
POCKETS, AND TRAINS  
LEAVING CHICAGO.



IT'S GOT NOTHING TO  
DO WITH REALITY'



AGREE 

DISAGREE 

MMM.. Is it?

Word Problems are harder than computing with numbers and using stand-alone algorithms.

Why???

What do students do?

EASY - add all the numbers together



“key word” in the problem that students associate with a specific operation



choose operation in current unit



# Why is reading avoided in math classes?

teachers concerns:

“My students just won’t read it.”

“The reading level is too hard for my students.”

“The words confuse my students.”



Make  
sense of  
problems

## Avoidance is NOT an Option

Attend to  
precision

LITERACY is crucial for developing mathematical habits of mind and true understanding.

Critique the  
reasoning of  
others



Construct  
viable  
arguments

So...

What do we do???



# Keywords can be Misleading

There are 6 pencil cases in a box, and I ordered 5 boxes.

How many pencil cases do I have altogether?

keyword for **addition**

NCTM: 13 Rules that Expire: <http://tiny.cc/umecvz>



# Numberless Word Problem

change the way  
students have  
to engage with  
word problems



support literacy

- ✓ chunking
- ✓ 3 read
- ✓ annotation
- ✓ summarizing
- ✓ vocabulary

## Reading Strategies

## Paper Set Up

Main idea statement  
Restate and answer the question.

### FACTS

Quantities      Units

### Justify your Answer

- ★ Show work
  - illustrations
  - tables, graphs
- ★ Anything that helps explain your answer step by step



## 1st Read

### Understand the context

- Show visuals
- Orally read the problem stem

### Main idea

- DISCUSS & Record

Cue words *do not work*



Maria and Carlos love to play marbles and are very competitive. Maria has fewer marbles than Carlos. JJ wants in on the action and says he has more marbles than Carlos.



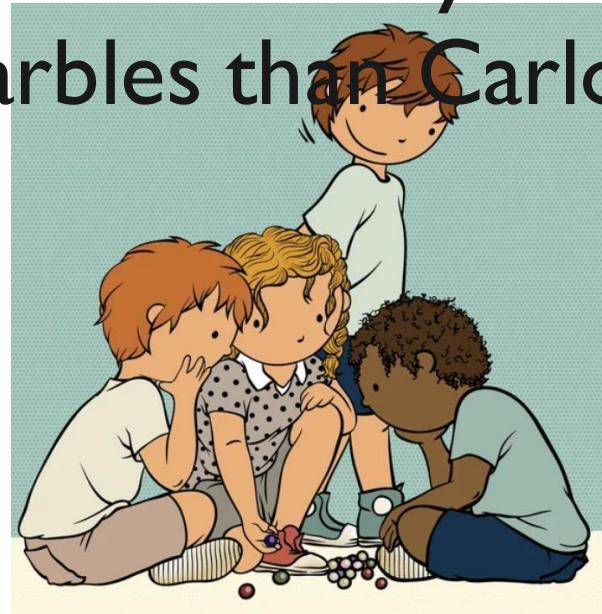
## 2nd Read

### Understand the mathematics

- Choral/Partner
- DISCUSS facts:  
quantities  
units



Maria and Carlos love to play marbles and are very competitive. Maria has 24 marbles, which is 8 fewer than Carlos has. JJ wants in on the action and says he has 12 more marbles than Carlos.



## 3rd Read

### Questions

#### PROMPT Student thinking...

 “What is missing to make this a good math problem?”

#### Discuss

#### Students Record questions

 “Is there only one question we can make?”

 “Can this question be answered with the information?”

#### ***Choral/Partner read***

Maria and Carlos love to play marbles and are very competitive. Maria has 24 marbles which is 8 fewer than Carlos has. JJ wants in on the action and says he has 12 more marbles than Carlos.

# Example Questions...



How many  
marbles does  
Carlos have?

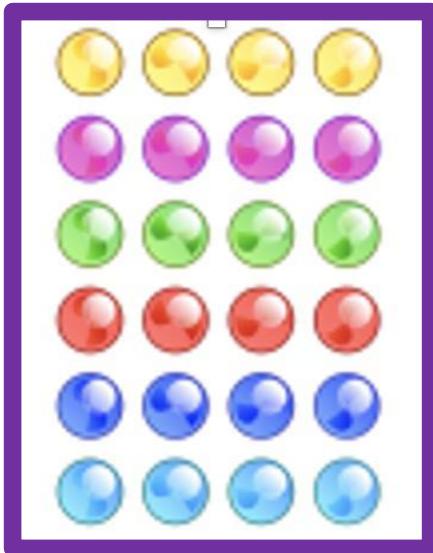


How many marbles do  
the three kids have?



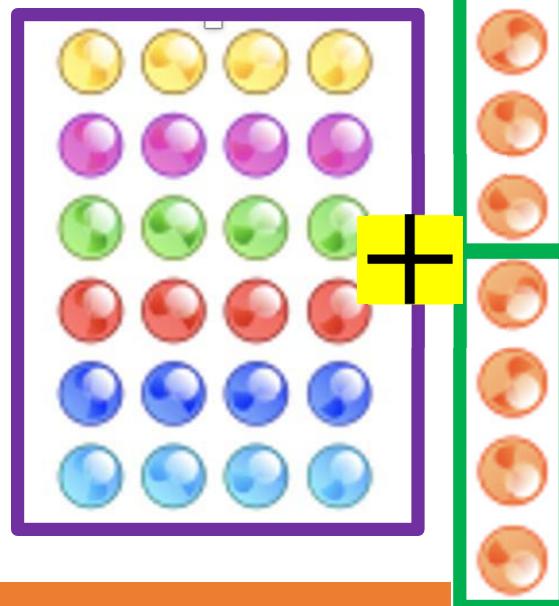
How many  
marbles does JJ  
have?

Maria's 24  
marbles

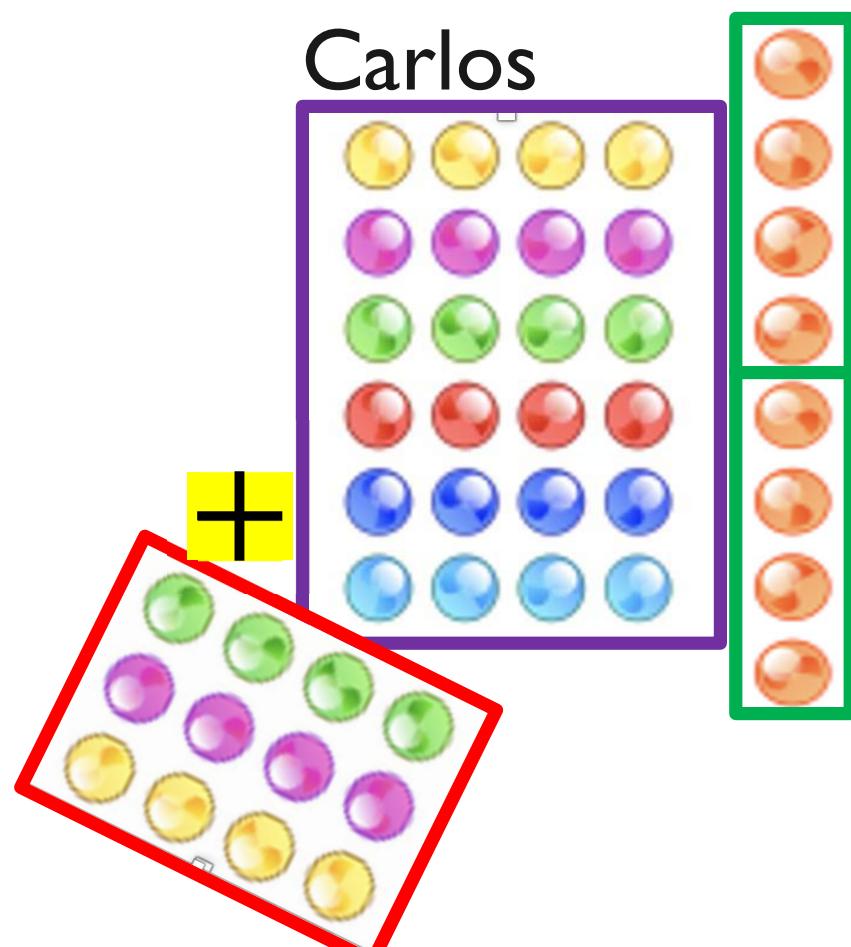


Maria has 8 fewer than  
Carlos has

Carlos' has 8  
more marbles  
because...



JJ has 12 more  
marbles than  
Carlos

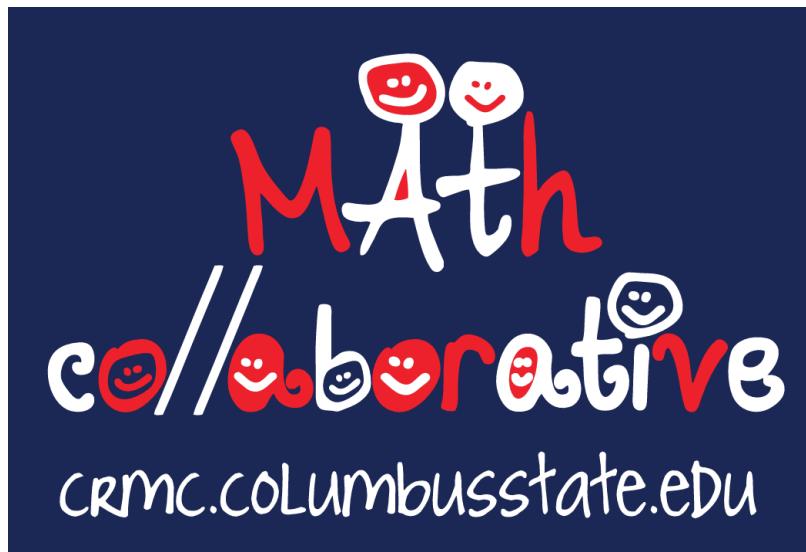


# Numberless Word Problems



<https://numberlesswp.com/>

# Who We Are



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# Follow Us on Social Media



Let's Get Connected for Our Latest News & Updates



on LinkedIn @columbus-regional-mathematics-collaborative



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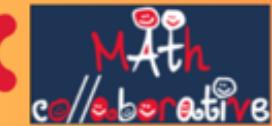


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Contact the  
Math  
Collaborative  
Today!



SCAN ME



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## Connect with The Math Collaborative

**CRMC**

706-565-1475

*Thank you!!!*

**Facebook**

@columbusregionalmathematicscollaborative

**Instagram** @mathcollab

**Twitter** @Collabmath.

**Website** [www.columbusstate.edu/crmc](http://www.columbusstate.edu/crmc).



# Session Evaluation Forms

Paper forms are available.

Place completed forms in the boxes (registration area, Dining Hall, Auditorium).

The form is available electronically.  
Complete the survey at

<https://tinyurl.com/2023GMCsessions>

Scan the QR code



### **Conference Evaluation Forms**

Please use this form to comment on the overall conference. Place completed forms in the boxes (registration area, Dining Hall, Auditorium).

The form is available electronically. Complete the survey at <https://tinyurl.com/2023GMCjoy>

Scan the QR code

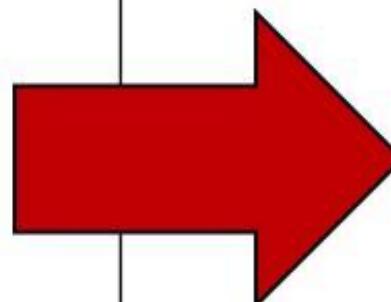


### **Session Evaluation Forms**

Please use this form to comment on individual sessions. All speakers have several forms. Place completed forms in the boxes (registration area, Dining Hall, Auditorium).

The form is available electronically. Complete the survey at <https://tinyurl.com/2023GMCsessions>

Scan the QR code



## **Ways to Submit Feedback**

