

Making Math More Social

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A disclaimer...



Math is for everyone.



**What things do you do to get
kids to talk to each other in
math class?**



What is a “Social” Classroom?

A classroom where:

- kids talk (or write) about their mathematical ideas (and those ideas related to the context or content of the problem) and those ideas are deemed as valuable.

- the talking and writing about mathematics happens, with or without the teacher, and between and among a single student, a small group of students, or the whole class.



The Progression of My Thinking

- How do we make math class less teacher driven?
- How do we get kids to talk?
- How do we ask the right questions?
- How do we, as teachers, become better listeners?
- How do we help kids talk and listen to each other?
- How do kids “actually” talk about their math ideas?
- How do we create social math classrooms?



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- How do kids “really” talk about their math ideas?**
- How do we create social math classrooms?**



**For math to be more
social, we need to ask
the right questions.**



The Right Questions

- Questions you don't know the answer to
 - Questions with no wrong answers
 - Questions with lots of right answers



Questions You Don't Know the Answer to

- How did you get that?
- What relationships do you see?
- What other strategies might work?



Questions You Don't Know the Answer to

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Number Talk

$119 + 119$

$139 + 139$

$199 + 199$



Number Talk

4 Voz fuerte
3 Voz alta
2 Voz normal
1 Sussura
0 Silencio

238
119 + 119
Emerson (238)
 $9+9=18 \rightarrow 38$
 $10+10=20 \rightarrow 238$
 $100+100=200$

278
139 + 139
Enzo
 $100+100=200$
 $30+30=60 \rightarrow 260$
 $9+9=18 \rightarrow 278$


238
Cody
 $120+120=240 \rightarrow 2$
 $119+119=238$

278
Liam
 $130+130=260$
 $9+9=18 \rightarrow 278$

238
Ruby (238)
 $9+9=18 \rightarrow 38$
 $10 \times 2 = 20$
 $100 \times 2 = 200$

278
Cody (278)
 $140+140=280$
 $139+139=278$

PIZARRA



NEVER
LOSE SOMEONE
STOP YELLING
FROM BEING
YOURSELF

ONE WORLD

We are all better because you are here. ♡

kindness MATTER

we open are minds and hearts so we can discover the knowledge

Every single device is going to be better.

BLANK



Connecting Strategies

139 + 139

Liam

$$130 + 130 = 260$$
$$9 + 9 = 18$$

> 278

Cody 278

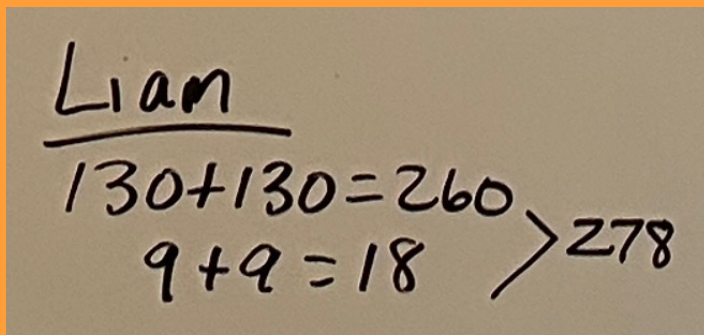
$$140 + 140 = 280$$
$$139 + 139 = 278 \downarrow$$

What words do kids use?

Liam: I was gonna do what Enzo did, but I could do two steps at the same time. So, I did $130 + 130$, then I doubled the 9s.

Mr. Zak: How did you get 278?

Liam: I put them together.



Liam

$$\begin{array}{l} 130 + 130 = 260 \\ 9 + 9 = 18 \end{array} \rightarrow 278$$

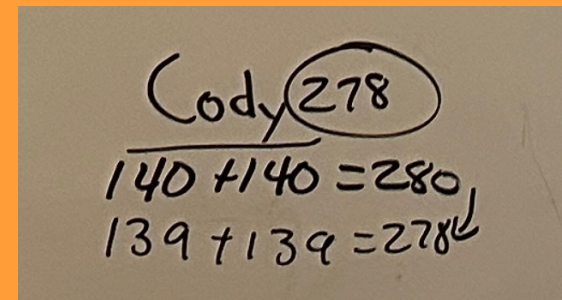
Cody: I went up to 140 and doubled it to get 280. Then I had to go back 2.

Mr. Zak: Why did you go back 2?

Cody: Ummmm...I don't really know.

Mr. Zak: Where do you see the 2 you went back?

Cody: I don't know, I just did it.



Cody 278

$$\begin{array}{l} 140 + 140 = 280 \\ 139 + 139 = 278 \end{array}$$

Questions With No Wrong Answers

Which one doesn't belong?

Would you rather?

What is an estimate that is too low/too high?



Questions With No Wrong Answers

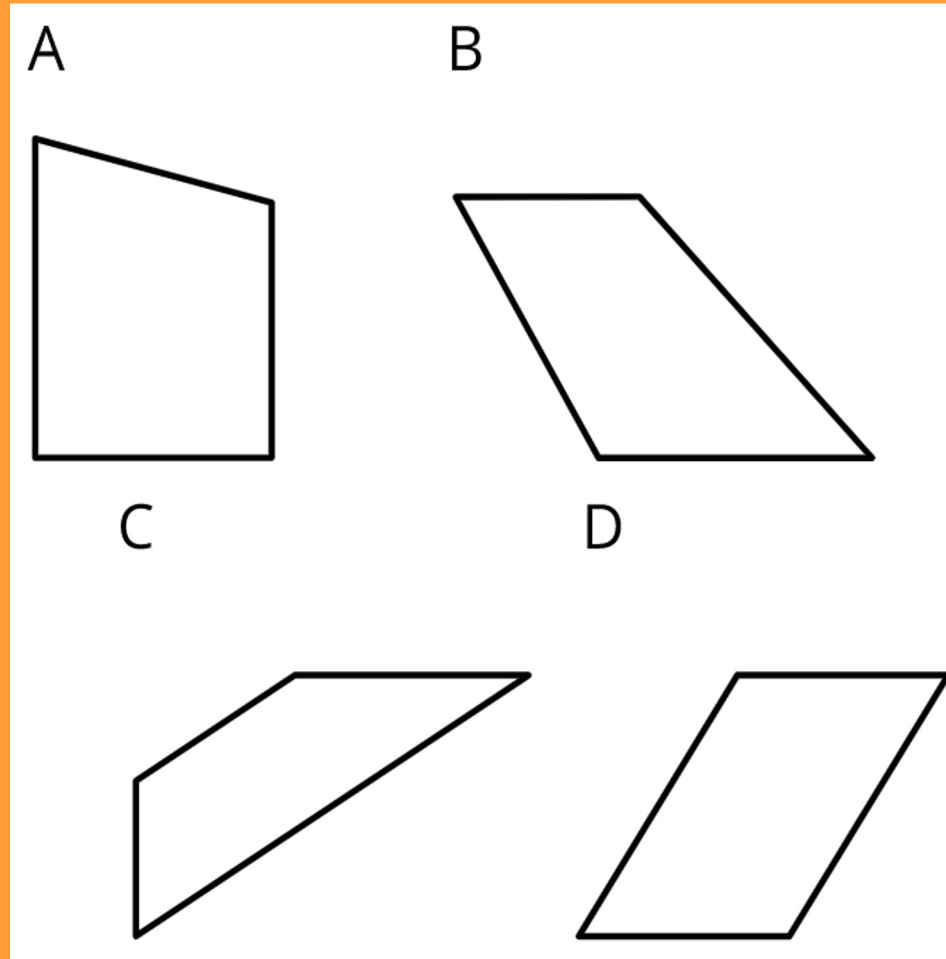
Which one doesn't belong?

Would you rather?

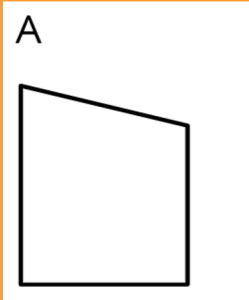
What is an estimate that is too low/too high?



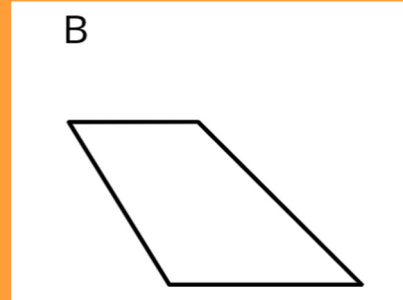
Which One Doesn't Belong?



What words do kids use?



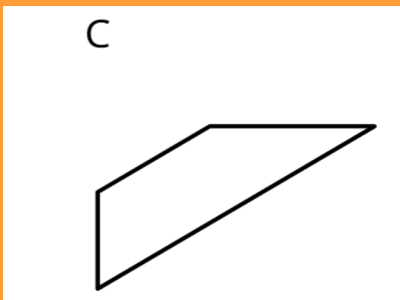
“Not a flat top”



“Tilted to the left”

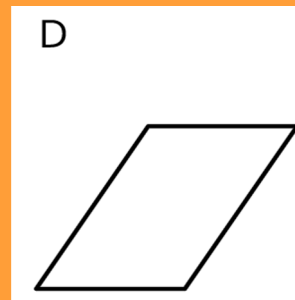
“Right is more slanted than the left”

“Corners more smashed”



“Most slanted”

“Least rectangular”



“Most normal”



When we add OUR words to a kid's idea, are we sending the message that the way they said it isn't correct?



When we add OUR words to a kid's idea, are we sending the message that the way they said it isn't correct?

Or even worse, are we ignoring that at times their language is in fact better than ours?"



Dr. Barbara Blanke and Kimberly Kelly



“Remember that
someone’s ideas
are a part of who
they are.”



Questions With Lots of Right Answers

What do you notice?/What do you wonder?

How many?

What information do you need to solve this problem?

What do you know about _____?



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What Do You Notice? What Do You Wonder?



What Information Do You Need to Solve This Problem?

Enzo: You could tell us the total weight of the peaches and IF the peaches weighed the same amount, we would need the weight of every peach.

Mr. Zak: What would you do then?

Enzo: Just divide.



Which Math is More Important?

Enzo's Thinking



Determining the number of peaches



Which Record is More Important?

Evermore



Folklore



Which Math is More Important?

Enzo's Thinking



Determining the number of peaches



What Structures Help Kids Talk With Each Other?

- Quiet think time
- Turn and talk structure
- Don't just share answers...share ideas
 - Comparing strategies
- What do you think about _____'s work?
 - Authentic and known questions



What Does Participation Look Like in a Social Classroom?

- It's NOT always sharing your ideas out loud
 - Squeezing all the math out of an idea
 - Participating as a listener



**Being social is the
way we learn.**





THANK YOU!

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