

# Two Structures for Looking at Student Work

**Please sit with at least two other people. Make new colleagues!**

Annie Fetter, @MFAnnie, [anniefetter@gmail.com](mailto:anniefetter@gmail.com)  
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A PDF of the slides and student work will be available on my blog after the session  
*[annie.mathematicalthinking.org](http://annie.mathematicalthinking.org)*

What do you notice?  
What do you wonder?

(Then solve the problem)

# Kickball Tournament

Ms. Emery is a physical education teacher. She wants to organize a kickball tournament for the fourth graders in her school. She will divide the fourth grade into 6 equal kickball teams. Ms. Madden's fourth grade class has 20 students, Mr. Smoyer's fourth grade class has 23 students, and Ms. Ponzio's fourth grade class has 29 students.

How many students will be on each team?



# At Your Table

Discuss your solutions to the Kickball problem.  
Talk about YOUR solutions, not the student work.

You might look at what is the same/what's different in your solutions.

Also, try to decide what you think the key mathematical ideas in the problem are.

# What Happened?

Share one interesting thing your small group talked about.

# Structure 1

A question for each student

# In Your Small Group

Look at the four pieces of student work, starting with your table number.

For example, if you are Table 7, look at students 7, 8, 9, and 10.

# In Your Small Group

For each of the four pieces of student work:

- What do you **notice**?
- What do you **wonder**?
- What's one question you could ask the student that you don't already know the answer to?

Watch Zak Champagne mention asking questions you don't know the answer to in his CMC North Ignite from 2016: [The Math Behind, The Math Ahead](#)



# What Happened?

What was hard or easy for you about coming up with a question you didn't know the answer to?

How did noticing and wondering first inform your process of coming up with a question?

Why might asking a question you don't know the answer to be important?

# Structure 2

Thinking about the whole class

# In Your Small Group

Use the paper provided AND/OR  
Go to <http://student.desmos.com>  
Type in the Class Code SKBPX3

How would you sort the *all* of student work?  
(Want to sort it another way? Go to the next page in Desmos)

# What Happened?

How did you sort the work?

Why?

How might sorting the work that way help you think about what to do in class tomorrow?

# Back In Your Small Group...

If your learning goal was helping 4th grade students build on this 3rd grade standard to work towards this 4th grade standard:

3rd grade standard: Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

4th grade standard: Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

What would you do tomorrow with this “class”?

# Closing Reflection

What's one aspect of these ways of looking at student work that you are going to incorporate into your practice this month? Why?

# Alternative Final Reflection

(These are questions we used when Max and I did a version of this session online. I left them here because they might be something you could use with folks back in your school or district.)

Why two different ways of looking at student work?

What felt the same and what felt different about each protocol?

Which protocol would you use when? Why?

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In this session, trainees find out the inside story behind the beginnings of the space program. Highlights include stories of early rocket scientists and dreamers who persevered despite ridicule from their contemporaries, the reaction of Americans to the Soviet launch of Sputnik and how animals paved the way for manned launches.

Moderators



**Sally Ride**

Physicist, NASA

Sally Kristen Ride was an American physicist and astronaut. Born in Los Angeles, she joined NASA in 1978 and became the first American woman in space in 1983.

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# Thanks!

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