Math Talk

Mathematical Sense Making
Through Mental Math

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Session Goals

In this session, we will -

• Experience a Math Talk
• Explore the structure of a Math Talk in the secondary classroom
• Engage in the creation of a Math Talk for use in your own classroom
Let’s Get Started!

Once the problem is given -

• Work by yourself to solve the problem without using paper and pencil

• When you have a response, please indicate that you are ready using a “thumbs up”
Which of the following does not belong? Why?

\[ y = x \]
\[ y = 2x \]
\[ y = x + 2 \]
\[ y = x^2 \]
What is a Math Talk?

*Math Talk* is a 5 – 15 minute classroom conversation around problems that students solve mentally.

They help students in -

- making sense of mathematics
- developing efficient computation strategies
- communicating reasoning
- proving solutions
Once the Problem is Given -

Provide appropriate wait time -
  – *Use a signal for students to indicate they are ready*

In gathering responses -
  – Accept, respect, and consider all answers.
  – *Ask 2 – 4 students to share/justify answer*
  – *Record methods/answers on chart paper*

Encourage student communication
  – *Create an environment where students feel safe in sharing.*
  – *Treat mistakes as learning opportunities*
Reflecting on Your Experience

Think about the math talk you just experienced –

What are some of the characteristics that made this prompt worthy to talk about?
Characteristics of a Math Talk

• Is an open ended question
• Has more than one possible answer
• Can be done mentally
• Students hear a variety of strategies to solve a problem.
• Creates opportunity to reinforce mathematics vocabulary
Types of Math Talk

While there are many different ways that a Math Talk prompt can be presented to students, we will focus on 3 categories:

• Which Does Not Belong?
• Tell Me All You Can
• Working Backwards
Examples

As you look at the following examples, consider –

• What are some possible answers?
• What might be the teacher’s goal in presenting this prompt?
• How does it fit our criteria for a Math Talk?
Working Backward

Joe simplified an expression and got a result of $3x^2$.

What was the original problem?
Tell Me All You Can

Tell me all you can about the diagram below.

BC \parallel DE
Tell Me All You Can

Tell me all you can about the graph below:
Which Does Not Belong

Which does not belong with the others and why?

[Diagram showing four geometric shapes: a triangle, a square, a rhombus, and a rectangle.]

Math Solutions

A division of HMH
Which one does not belong with the others and why?
Your Turn

Work individually or with a partner and write one or two Math Talk questions for any of the three categories.
Consider-

“When we ask students questions about relationships, properties, and procedures associated with number concepts, we help our students make important mathematical connections between numbers and their representations.”

From Good Questions for Math Teaching by Lainie Schuster and Nancy Canavan Anderson, page 17
Summary and Reflection

Turn to a partner and discuss –

• How might using a Math Talk routine in your classroom impact your students?
Thank you!

Website: www.mathsolutions.com
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