High School Math Talks 101 - Getting Started

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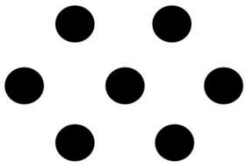
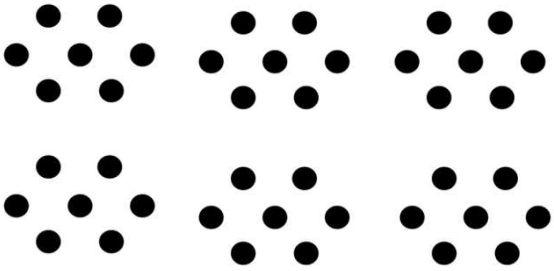
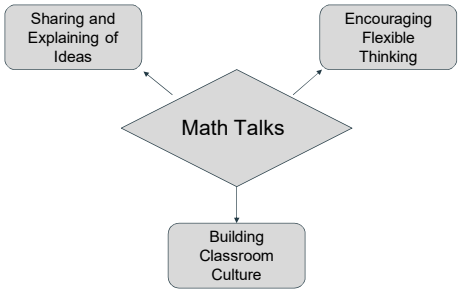
Let's do a math talk

How many dots are there?
Don't just count.





What are math talks?



The Big Idea of Math Talks

- Help students learn to express their ideas
- Conceptual thinking over procedure
- All students feel safe sharing
- Valuing and encouraging diverse ideas

Adapted from *Making Number Talks Matter: Developing Mathematical Practices and Deepening Understanding, Grades 4-10* by Cathy Humphreys and Ruth Parker

Math Talk Structure

- About 10 minutes
- Question or situation that is open-ended or has multiple solution pathways
- Students share ideas aloud to the class
- Teacher scribes students' ideas on board objectively

Math Talk Routine

1. Paper and pencils away
2. Show problem
3. Students solve problem mentally and signal when done
4. Teacher records student answers on board
5. Teacher asks if anyone can explain their thinking
6. Students share strategies and teacher records
7. Teacher asks questions

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Types

- Dot Talks
- Which One Doesn't Belong (WODB) Talks
- Number Talks
- Pattern Talks
- Content Talks

Dot Talks

What is a dot talk?

- Group of dots to visually count
- Looking for patterns
- Helps show multiple viewpoints

Dot Talks - Obstacles and Tips

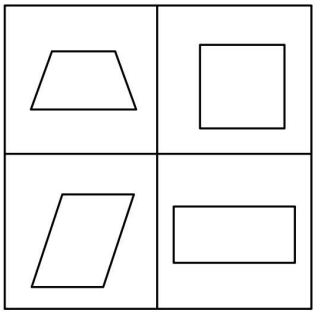
- Start with dot talks
  - Limit to a couple at the beginning
- Use to establish a culture of multiple solutions and sharing thinking

Which One Doesn't Belong (WODB) Talks

What is a WODB talk?

- Which One Doesn't Belong
- Group of 4 choices (equations, graphs, shapes)
- Students decide which one is different from the others and justify
- All 4 choices can be justified

Which one of the shapes doesn't belong in the group? Why?



WODB Talks - Obstacles and Tips

- Use to establish a culture of multiple solutions and sharing thinking
- Use to practice mathematical vocabulary
- Difficult to develop

Hand signals?

- Hand signals can be used by students to signal they are done thinking
- Private thumbs up
- Not required or necessary

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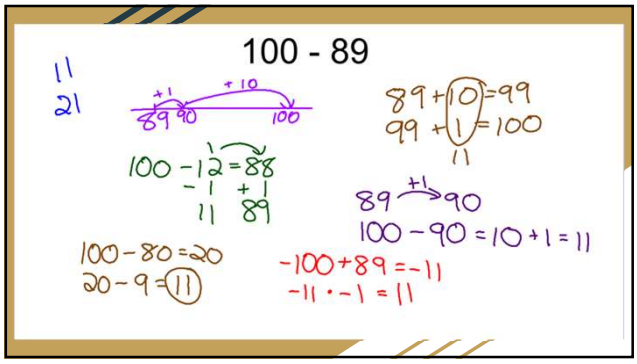
Number Talks

What is a number talk?

- Numerical calculation
- Multiple strategies for discovering answer
- One correct solution



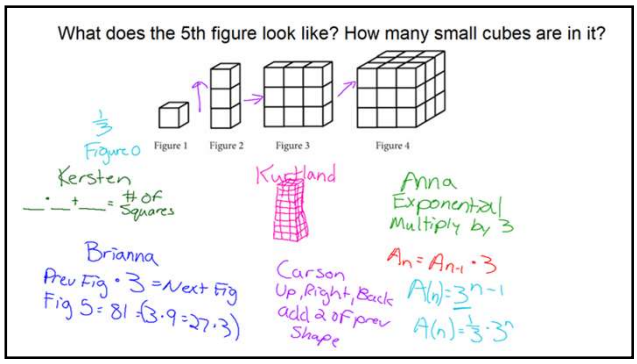
Number Talks - Obstacles and Tips

- Don't use too many in a row
- Use to help students build fluency with numbers
- Use to help students develop strategies

Pattern Talks

What is a pattern talk?

- Picture pattern with predictable change
- Asks students to visualize patterns and generalize
- Various questions can be asked



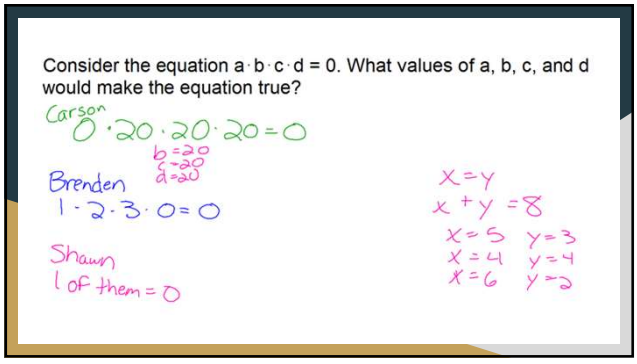
Pattern Talks - Obstacles and Tips

- Ask a specific question
- Use to help students connect representations
- Use to help students see algebra visually

Content Talks

What is a content talk?

- Connected to current classroom content and curriculum
- Asks students to extend their thinking about topics
- Varied format



Content Talks - Obstacles and Tips

- Make sure the problem allows for multiple strategies or ways of thinking
- Use to introduce daily topic
- Use to review or expand prior thinking and understanding

Planning a Math Talk

- Anticipate different strategies
- How will you record each of these strategies?
- What questions might you ask to fully understand student thinking and/or method?
- Reflect - How did it go? What next?

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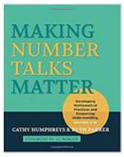
Resources

- www.visualpatterns.org
- Wodb.ca
- Numberstrings.com
- MathTalks.net

References

Making Number Talks Matter: Developing Mathematical Practices and Deepening Understanding, Grades 4-10 by Cathy Humphreys and Ruth Parker



Questions?

Share your experiences with us!

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