Talking & Writing in Math (part 1)

SMP #3 – Construct viable arguments & critique the reasoning of others

Generating Math Talk

Climate
Create a climate that is conducive to math talk. Think about the benefits of turn and talk instead of having students just raise their hands; room arrangement; wait time; and, emphasizing the thought process instead of just the correct answer.

Opportunity
The opportunity for students to participate in math discourse should be often and deliberate. Think about how to include these opportunities in whole-class discussions, teacher-led small groups, collaborative groups; and, student presentation/sharing.

Productive Talk
Students must learn ways to begin conversations, ask questions, and critique the reasoning of others. Think about posting discussion starters. Some possible discussion starters include:

- I agree with Steve because……
- That reminds me of …..
- I would like to add …..
- I don’t understand …..
- I have a question about …..

Also, consider discussing the tone of a person’s voice when they are speaking.

Resources

Math In Practice
https://www.heinemann.com/

Solve Me Puzzles
http://solveme.edc.org/

Splat!
https://stevewyborney.com/2017/02/splat/

“If you can’t explain it simply, you don’t understand it well enough.”
~Albert Einstein

Talking & Writing in Math

SMP #3 – Construct viable arguments & critique the reasoning of others

Developing the language of Math

**Intro to Math Words and Symbols**

- Use charts, discussions, interactive activities, context, visuals, synonyms, examples, and connections.
- Math talk charts
- Word walls
- Folded books
- Graphic organizers
- Vocabulary logs

**Setting Expectations for Precision**

We introduce students to math words and give them repeated opportunities to explore the words and their meanings, but we must also expect students to use the words when they are talking or writing about math.

- Posting Math Talk charts and word walls can act as reminders
- Using/mentioning vocabulary as you give directions for the day’s activities
- Listening to students’ discussions for use of precise language and praising students for that use
- Supporting SMP #6 – Attend to Precision

*“If you can’t explain it simply, you don’t understand it well enough.” ~ Albert Einstein*

**Exploring Words in Context**

Students need opportunities to hear and speak it to make the words their own.

- Provide repeated exposure to words and meanings – create definitions, create riddles, etc.
- Make connections between words – word webs, word sorts, etc.

**Resources**

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Talking & Writing in Math (part 3)

SMP #3 – Construct viable arguments & critique the reasoning of others

Helping students communicate about Math

Writing About Math

Helping our students learn to communicate mathematically allows our students to verbalize their ideas and strengthens classroom discussions. In order to write, we must recognize and organize our thoughts to put them in writing. We formalize ideas and find ways to express them clearly.

Types of Talk and Writing

Writing is hard, but when we are able to write about an idea, we have truly internalized the idea and made it our own. Talking and writing do not always look the same. We communicate for different purposes, such as:

- Describing or defining a math concept
- Explaining how to do a process
- Justifying an answer or method
- Creating word problems
- Comparing and contrasting strategies and concepts
- Generalizing or drawing conclusions
- Summarizing learning
- Reflecting on learning

Math Journals

Provide a spot for students to: brainstorm ideas; draw models; solve and reflect on math problems; describe math concepts; etc.

Try balancing journal writings with opportunities to write on colored paper, folded paper, chart paper, grid paper, etc.

Resources


Math In Practice

Solve Me Puzzles

Splat!

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