

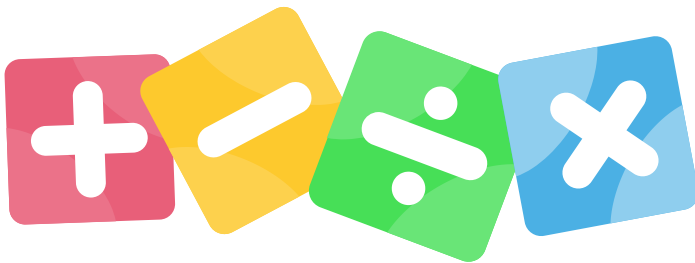
# Developing Mathematical Mindsets

September 2024

## Welcome Back to School!

As we kick off a new school year at PVNC Catholic District School Board, we are thrilled to continue our commitment to improving students' math skills and their love of math. This year, we are excited to once again share our monthly newsletters with you. We are also developing a dedicated landing page on our board website to make math resources for at-home learning even more accessible. Mark your calendars for October 17th. Our first virtual Math At Home session is just around the corner. Watch for more details coming soon.

Here's to a fantastic school year full of growth and enthusiasm for math!



Click on the picture below to watch a video about productive struggle with your child.



Source: <https://www.youcubed.org/resources/the-importance-of-struggle/>



## Supporting Productive Struggle

Productive struggle in math happens when students have enough support and prior knowledge to tackle a challenging problem. It pushes them to think creatively and builds problem-solving skills. Instead of immediately solving problems for students, it is crucial to let them wrestle with difficulties in order to promote learning. Stanford Professor Jo Boaler warns that focusing solely on speed and memorization can lead to misunderstandings and a dislike of math. Top math achievers understand broader concepts and connections between ideas. Research shows that productive struggle leads to deeper learning and creative problem-solving.

As a parent, you can support this by encouraging your child to share their reasoning and celebrate their unique approaches.

Messages to reinforce include:

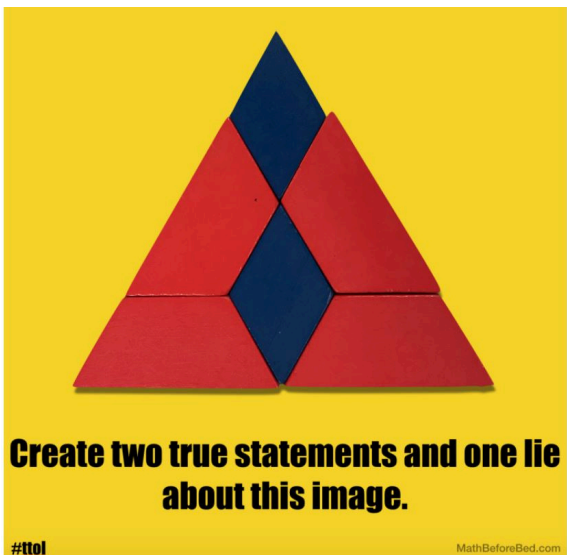
- “Problem solving happens when we don’t know what to do.”
- “You worked hard to solve that problem. Well done!”
- “How does it feel to solve a tough problem?”
- “Mistakes help your brain grow.”
- “Math is challenging and fun!”

Let's value and celebrate the productive struggle instead of seeking easy answers.

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## START A CONVERSATION



Students of all ages benefit from talking about math. Use these images to start a conversation! There are more prompts and ideas at [mathbeforebed.com](https://mathbeforebed.com)

## Math Learning At Home

- **Foster a Positive Attitude:** Share enthusiasm about math and demonstrate its value in everyday life. A positive outlook is contagious and can make learning math more enjoyable for your child.
- **Encourage Persistence:** Remind your child that some problems take time to solve. Celebrate their effort and perseverance rather than just the correct answer.
- **Explore Different Approaches:** Support your child in experimenting with various methods to solve math problems. There's often more than one way to find a solution.
- **Promote Mathematical Communication:** Encourage your child to explain their thought process or represent problems visually, like drawing pictures or using counting materials.
- **Ask Questions:** While they solve problems, ask questions such as: "What are you thinking?" "What could you try next?" "Do you notice any patterns?" "Does your answer make sense?" This helps deepen their understanding.
- **Connect Math to Daily Life:** Help your child see how math is relevant in everyday activities, like measuring ingredients, calculating distances, or managing time.
- **Play Math Games:** Engage in family games that involve math, such as Checkers, Monopoly, Uno, or math puzzles and games with dice and cards. This makes math practice fun and interactive.
- **Emphasize Understanding Over Speed:** Focus on comprehension rather than quick responses. Speed drills can lead to math anxiety, so use visual activities and problem-solving games instead.

Remember that you can talk with your child's teacher about difficulties they may be experiencing. When teachers and parents work together, children benefit.