Mindset Mathematics for Struggling Learners (K-5)

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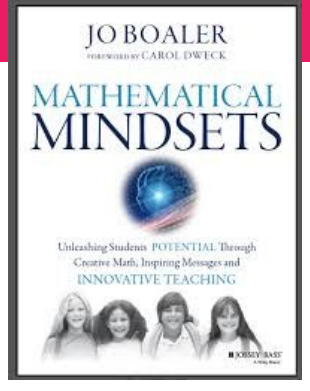
youcubed
at Stanford University

https://www.youcubed.org/students/



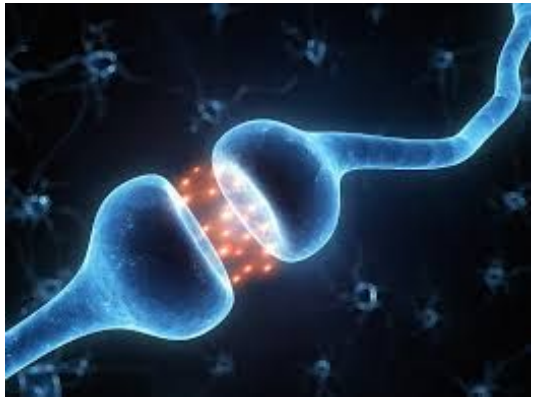
Outcomes

Participants will:

- Deepen their understanding of brain science.
- Have a better understanding of mathematical growth mindset.
- Understand how to develop rich mathematical tasks.
- Engage in a rich mathematics task.

Our Brains

- Flexible
- Malleable/Plasticity
- Mistakes → Synapses Firing



Mathematical Growth Mindset

- Knowing that math is a subject of growth
- Set of ideas within which relationships can be made
- Role is to learn and think about new ideas

5 C’s of Mathematics Engagement

- Curiosity
- Connection Making
- Challenge
- Creativity
- Collaboration

Rich Mathematical Tasks

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1. Open and encourages multiple methods, pathways, and representations

2. Inquiry task

3. Problem before method

4. Visual component

5. Low floor and high ceiling

6. Convince and reason

Discussion Strategy

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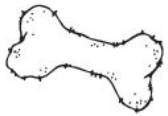
3 Levels of Convincing

- Convince yourself
- Convince a friend
- Convince a skeptic

Maths Problem

Name _____



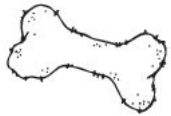
Dog Biscuits

How many ways can you make two groups of 24 dog biscuits?

What other ways can you group the dog biscuits?

Show your results in a visual representation that shows all of the combinations you made.

Name _____



Dog Biscuits

How many ways can you make two groups of 24 dog biscuits?

How many ways can you equally group 24 dog biscuits?

Show your results in a visual representation that shows all of the combinations you made.

CLASS DEBRIEF QUESTIONS

- Show your results in a visual representation that shows all of the combinations.
- How did you solve the problem?
- Did you find all of the combinations?
- How do you know you have all of the combinations?

Discussion and Reflection

- What did you notice about how you approached the problem?
- What did you notice about your thoughts while working through the problem?
- How can this task be used? - CCSS
- Why do you think this particular task was selected?

Exit Pass

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After learning about Mathematical Mindsets,

- What was one intriguing thing that you learned today?
- How can you adapt a problem like Dog Biscuits for your students in your classroom?

Link to Resources:
https://goo.gl/jiHLKG

Thank you!

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