LEAD 2.0 Goal 2: Design learning environments that support social and emotional well-being
What is a Growth Mindset Mathematics class like?

**Sounds Like:**

Talk, talk, talk to each other about our ideas:

- Why did I choose this method?
- Does it work with other cases?
- How is this method similar or different to the methods of others?

**Feels Like:**

A energetic and creative environment where growth mindset messages are exchanged at all times through:

- The tasks they work on
- The way they are grouped
- The messages they hear
- They way they are assessed
What is a Growth Mindset Mathematics class like?

**Looks Like:**

**Visual and Intentional:**

- Common experience tasks that inspire curiosity and awe
- Creativity in multiple representations
- Evidence of multiple methods
- Working fast is just okay, but thinking and working DEEPLY is best

**In the words of Dr. Jo Boaler:**

[Image of Professor Jo Boaler]
Building Positive Norms
7 Powerful, Positive Norms

Based on the research of Carol Dweck and the work of Dr. Jo Boaler.
Norms inspire freedom to think creatively:

Helpful hints for forging Growth Mindset norms that will encourage positive and productive “group work”:

● What we **don’t** like people to say when we are working on math together

● What we **do** like people to say when we are working on math together

● Test these norms with the “Paper Folding” investigation, and revise them based on student input.

Based on the work of Dr. Jo Boaler in *Mindset Mathematics, Grade 6*
Skeptics and Convincers
Or
“How to discuss Math...”
Convincer

Proposes a mathematical conjecture and defends it by:

- Presenting facts and observations
- Looks for patterns
- Measures (Calculates) accurately
- Checks with multiple examples
- Remains calm, confident, patient and open to feedback
Skeptic

Analyzes a mathematical **conjecture** and evaluates it by:

- Examining facts and observations
- Can logically follow the patterns identified
- Verifies accuracy of measurements and/or calculations
- Suggests alternative ideas or examples
- Is respectful at all times
Engage with Creative and Visual Tasks
Paper Folding: Learning to Reason, Convince and Be Skeptical

There are two goals:
- Learn to use reason to convince
- Learn to use reason to question

Fold a square sheet of paper into a:
- Right triangle
- Equilateral triangle
- Isosceles triangle
- Scalene triangle

*NOTE: The triangles MUST NOT use the edges of the square piece of paper!
Where can I get more visual task ideas?
Mistakes mean your synapses are firing, and you are now ready to learn deeply.
The Four 4s

How can we use the number 4 four times with any operation to calculate every ....

- Natural (counting) number
- Whole number
- Any Integer (look for use of adding the inverse instinctively)

Instructional Goals:
- Treasure mistakes as powerful learning opportunities
- Generate a authentic need to know how to work with integers

Sample of the Four 4s as applied to an integer investigation