

# BUILDING MATH POSITIVE CLASSROOMS

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It is unquestionable that the amount of change we enduring during a global pandemic has impacted the teaching and learning of mathematics, positively, negatively, and everywhere in between.



I don't have all the answers.

There is not a perfect solution.



# This talk is NOT about:

- Learning loss.
- Kids being “behind or low.”
- Defeating language and beliefs that blame students and teachers.
- Punishing students
- How to spend the year “making up” time



# This talk is about:

- An open and honest conversation about this past year.
- How to honor the incredible work teachers, students, and families have done in the face of incredible challenges.
- How to focus on what matters in mathematics classrooms.
- How to build math positive identities in each of our students.



What is one positive thing that happened to education in the past 18 months?



What is one challenge you are anticipating  
as you return to campus this fall?



# Play The Long Game





# My Core Teaching Beliefs:

- 1 It's okay to walk away from a math problem.
- 2 It's okay to not be finished when class ends.
- 3 Your wonderings are important.
- 4 You have important mathematical ideas.
- 5 Play Matters.



# Routines that get at these core beliefs.

- Number talks
- Estimation 180
- Visual Patterns
- Three Act Tasks
- Which One Doesn't Belong?
- Notice/Wonder
- Desmos Polygraph



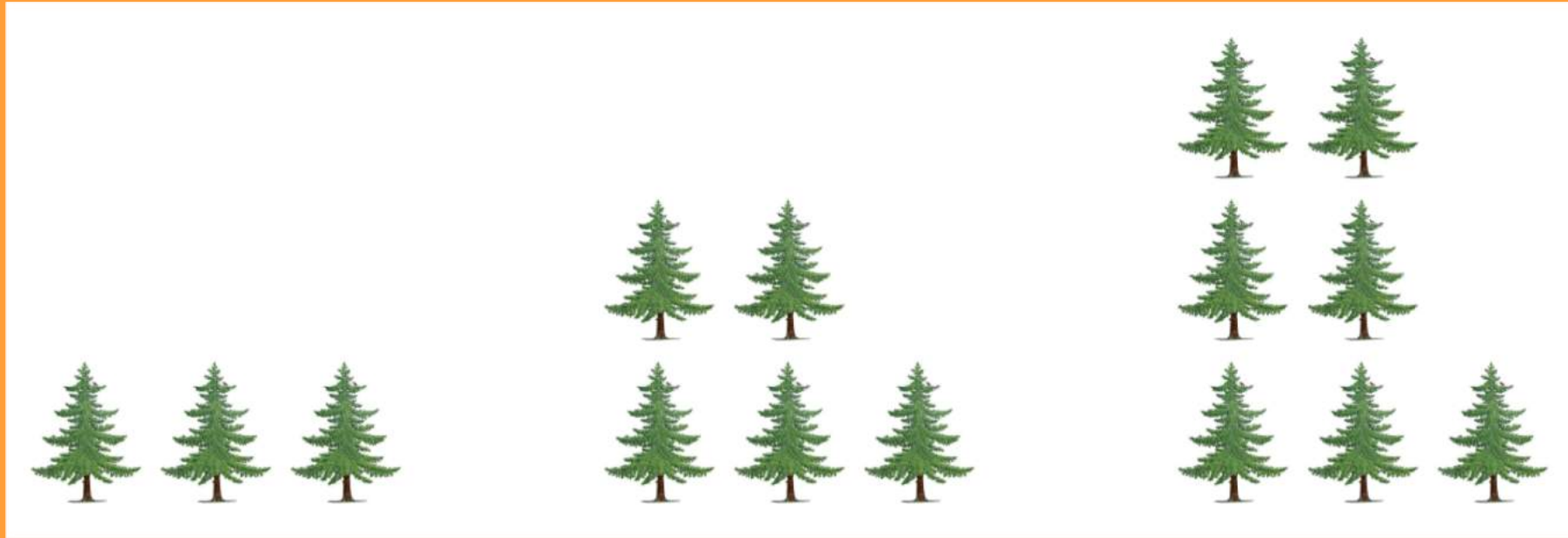
Begin with connection and community.



When kids share their thinking, they  
are building community.



# What comes next? What comes tenth?



Source: [www.visualpatterns.org](http://www.visualpatterns.org)



Extend grace, trust, and understanding.



Assume that each and every student is doing the very best they can on any given day.

Start every day with that assumption.



Use positive language and focus  
on engagement.







What do you notice?  
What do you wonder?



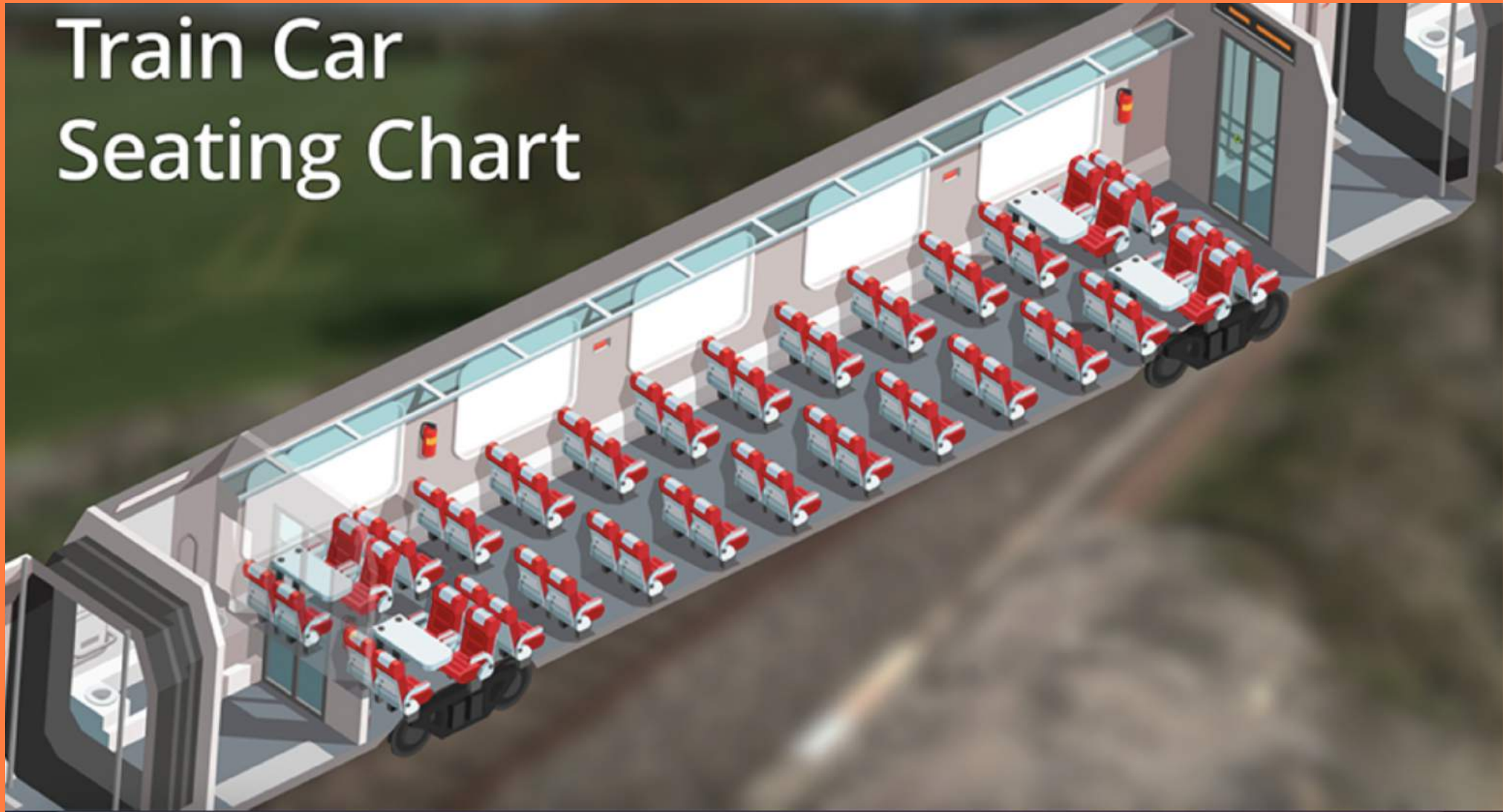
Main Question?  
How many seats are  
on the train?



# What information do you need?



# Train Car Seating Chart



11 passenger cars





Give all students access to grade level content.

Don't assume anything about anyone.





Focus on conceptual development.



If you have access to linking cubes, grab them. If you have access to graph paper, that works too. If you have neither, consider just playing with math itself.



Consider a rectangular solid with the following dimensions:

$$2 \times 3 \times 4$$

Now consider a second rectangular solid that doubles the lengths of all the edges of the first.

- What happens to the area of each face?
- What happens to the surface area of the solid?
  - What happens to the volume?
- What do you think would happen if you tripled the length of each edge?



Concepts then processes.



Slow down and have fun.





# THANK YOU!

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