



# DISCOURSE + DISTANCING

HOW TO RUN REMOTE LANGUAGE ROUTINES

@DevinRossiter
#DiscourseDistancing
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## **DEVIN ROSSITER**



#### Learning Intention

• Let's gain a deeper understanding of the role of discourse in remote instruction settings.

#### Success Criteria

- We'll know this was a meaningful session when we have:
  - Identified a sampling of tools to apply to math language routines.

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• Participated in asynchronous discourse activities.



## WHAT IS A MATHEMATICAL LANGUAGE ROUTINE?

Understanding Language/SCALE Stanford Graduate School of Education

#### UNDERSTANDING LANGUAGE/ STANFORD CENTER FOR ASSESSMENT, LEARNING, AND EQUITY

Stanford University Graduate School of Education

Principles for the Design of Mathematics Curricula: Promoting Language and Content Development

Jeff Zwiers Jack Dieckmann Sara Rutherford-Quach Vinci Daro Renae Skarin Steven Weiss James Malamut

## WHAT IS A MATHEMATICAL LANGUAGE ROUTINE?

MLRI: Stronger and Clearer Each Time

MLR2: Collect and Display

MLR3: Critique, Correct, and Clarify

MLR4: Information Gap

MLR5: Co-Craft Questions and Problems

MLR6:Three Reads

**MLR7: Compare and Connect** 

**MLR8:** Discussion Supports

## WHAT IS THE PURPOSE OF CO-CRAFTING?

 To allow students to get inside of a context before feeling pressure to produce answers, to create space for students to produce the language of mathematical questions themselves, and to provide opportunities for students to analyze how different mathematical forms can represent different situations.

Zwiers, J., Dieckmann, J., Rutherford-Quach, S., Daro, V., Skarin, R., Weiss, S., & Malamut, J. (2017). Principles for the Design of Mathematics Curricula: Promoting Language and Content Development. Retrieved from Stanford University, UL/SCALE website: <a href="http://ell.stanford.edu/content/mathematics-resources-additional-resources">http://ell.stanford.edu/content/mathematics-resources-additional-resources</a>

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## WHAT ARE THE TYPES OF CO-CRAFTING?



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Co-Crafting Situations

What is the story of this graph?





## bit.ly/CMCDistance1



A rectangular prism has a volume of 42 cubic units. The length is 3 units. The width is 2 units. What is the height of the prism?

Co-Crafting Problems

- I)With a partner, create a similar problem to the one above.
- 2)On a separate note/paper, solve the problem your pair has created.
- 3)Exchange your problem with another pair, solve theirs, and compare solutions.

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4) Now, let's revisit the original problem.

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## HOW WOULD YOU DEFINE CO-CRAFTING?

In the chat, compose one sentence using the prompt:

# "Co-crafting is the practice of ... "

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EXAMPLES OF COMPARE & CONNECT

- Which One Doesn't Belong?
- Same or Different?
- Gallery Walk/Bansho
- Number Talks

## HOW DO WE SUPPORT COMPARE & CONNECT?

Students should be prompted to reflect on and linguistically respond to these comparisons (e.g., exploring why or when one might do/say something a certain way, identifying and explaining correspondences between different mathematical representations or methods, wondering how an idea compares or connects to other ideas and/or language.) Teachers should model thinking out loud about these questions.

# MATHLE ROYALE

DISCOURSE ACTIVITY IN GOOGLE JAMBOARD

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bit.ly/CMCJamboardA
bit.ly/CMCJamboardB
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## EXAMPLES OF INFORMATION GAP

- Info Gap Cards
- Environmental Hunt
- What's My Ratio?

## HOW DOES INFORMATION GAP SUPPORT DISCOURSE?

This routine allows teachers to facilitate meaningful interactions by giving partners or team members different pieces of necessary information that must be used together to solve a problem or play a game. With an information gap, students need to orally (and/or visually) share their ideas and information in order to bridge the gap and accomplish something that they could not have done alone. Teachers should model how to ask for and share information, clarification, justification, and elaboration... cultivat[ing] conversation.

## POLYGRAPH

By Desmos

# Go to student.desmos.com and type in:



		negative they say no
ÉMILIE DU CHÂTE	does it go trough 2 lines does it go trough 1 line is it a straight line	5:56 pm
Émilie du Châte This game wasn't completed Hypatia	let Does your line cross through the origin?	5:46 pm
PICKER Hypatia GUESSER Émilie du Châte	does your line cross one or two axis does your line go vertically let	5:43 pm
PICKER Émilie du Châte GUESSER Hypatia	Does your line cross the y-axis at a positive point? Does your line intercept the x-axis at a positive point? Is the point where the line crosses the x-axis visible of Is the point (2, -1) on your line?	5:37 pm n your grid?
	does your line cross the origin	5:29 pm





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bit.ly/Discourse
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#### WHAT'S GOING ON INTHIS GRAPH?

NYTIMES.COM/COLUMN/WHATS-GOING-ON-IN-THIS-GRAPH







# THANK YOU!

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