



ICTCM 2022
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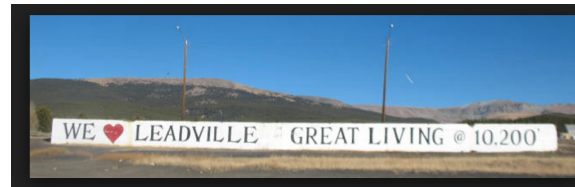


Using Tactile Activities, Technology, and Current Events to Engage Mathematics Learners

**Presenters: Angie Hodge-Zickerman
& Cindy York**

Collaborator: Eric Stade

A little about Angie



About Cindy

- Associate Professor at Northern Illinois University
- PhD in Instructional Technology from Purdue (2010)
- 4th/5th grade teacher (1996-1998)
- Teaching using technology since 1994
- Teaching teachers online since 2004
- Working with a combination of mathematics, active learning, and technology since 2015



What is a TACTivity?

- A tactile activity that encourages collaboration and engagement.
- Tactile (movable pieces)
- Actively engages students
- Can be used to help teach or to review a concept
- Most are designed for groups of 2-4 students
- Often self-checking
- Very few (if any) directions needed
- No moves are permanent

Virtual TACTivities

- Tactile learning activities created with active learning in mind.
- TACTivities were originally made to be pieces of paper that you could move around in front of you on a table.
- We have modified TACTivities into virtual since the COVID-19 pandemic and as a way to reach other remote or virtual attendees/learners.
- There are a number of technology tools you can use and we will demonstrate two of them later on – Desmos and Padlet. But Google Slides, PPT, and other easy to use tools can be used as well.

The background of the slide is a light gray pattern of various icons related to mathematics and science. These include a compass, a lightbulb, a gear, a building, a leaf, a percentage sign, a triangle, a circle, and a square. The icons are arranged in a repeating pattern across the slide.

Try one!

- Country and fun fact TACTivity

Hey, students!

Go to student.desmos.com
and type in:

MFK AYG

Discussion on TACTivities

- How could these TACTivities be used to increase interaction and communication among your students?
- How could they be used to help develop critical thinking skills?
- What mathematics lends itself to a TACTivity?

padlet

Cindy York + 1 1m

TACTivity Idea Wall

Wall for TACTivity workshop - Post your TACTivity ideas here



Double-click to post your TACTivity ideas here.

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Feel free to share!

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QR Code to this Padlet Wall



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<https://tinyurl.com/TACTivity>

Current Events TACTivity

In a population of 10,000 people, 1% are infected with COVID-19. All 10,000 people are tested, using a test that has a 2% false positive rate (2% of those who are uninfected will test positive), and a 15% false negative rate. Complete the table, and the conclusion below. (Numbers in purple boxes; words in green boxes.)

Number of people	Infected	Uninfected	Total
Test positive	<input type="text"/>	<input type="text"/>	<input type="text"/>
Test negative	<input type="text"/>	<input type="text"/>	<input type="text"/>
Total	100	9900	10000

CONCLUSION: Even though the test is has a false positive rate of only 2%, out of all people who test positive for COVID-19, only

$\frac{\text{ }{\text{ }}}{\text{ }} \approx \text{ } \% \text{ are actually infected!}$

	(true positive)	
(true negative)		
(false negative)		
(false positive)		
	(true false)	
100	198	
283	15	
30	85	85
9717	9702	283

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Tables of Data

From pre-algebra to statistics, tables are your most loyal ally in the battle to organize and visualize your data.

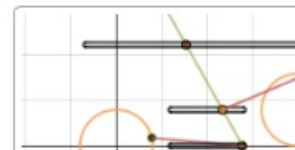
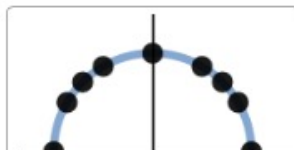
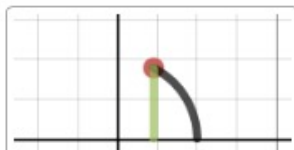


Regressions

Best-fit line? Done. Quadratic? Exponential? Sinusoidal? Absolutely. If you can write the equation, we'll try to regress it.



Staff Picks: Math Examples >



Share on Desmos

- **What current events lend themselves to TACTivities? What other ideas of current events include real life mathematics and that could be turned into a TACTivity to help teach students about both mathematics and current events? Go here to share!**

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Go to student.desmos.com
and type in:

T3N VE3

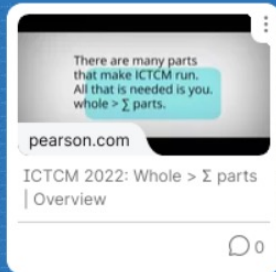
Padlet

padlet

Cindy York + 1 • 1m

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