

00:18:56 Trena Wilkerson: Hello everyone! Welcome from Waco, TX!
00:19:00 Kevin Dykema: Hi from southwest Michigan!
00:19:10 Dewey Gottlieb: Aloha from Hawaii!
00:19:12 Adam Kellam: Atlanta, GA
00:19:12 Ryan Dougherty: Fort mill SC
00:19:15 Isabelle Stimson: Hi from Elon, NC
00:19:15 Emerlina Binuya: Good evening! I'm Emerlina from Petersburg,
VA.
00:19:16 Mary Hayburn: Hi from Philly, PA
00:19:16 Mollie McDermott: Hello from Buffalo, NEw York!
00:19:16 Denise Rawding: New Jersey
00:19:19 Tabatha Ridenour: Oregon
00:19:20 Tammy Jones: Good evening from middle TN
00:19:20 Irina Lyublinskaya: Hello from NYC
00:19:20 Kimberly Bender: Richmond, VA
00:19:21 Liz Colleran: NJ
00:19:23 Aamir Ammermann: Hello from Flagstaff Arizona
00:19:23 Ken Krehbiel: Hello everyone from Washington, D.C.
00:19:24 Laurel Pollard: New Hampshire
00:19:26 Amanda Gray: Lake Regions, Maine
00:19:27 Lynn Selking: Iowa
00:19:29 Michael Porrazzo: NEK, VT
00:19:31 Tom Reardon: Hello from Columbus Ohio!
00:19:33 Liz Colleran: NJ
00:19:34 Michelle Breaux: Avondale, Arizona
00:19:34 David Glassmeyer: Atlanta, GA
00:19:35 Karin Lee: Hello - I am From So Cal - San Jacinto California'
00:19:36 Katelyn Dilley: Hammond, Louisiana
00:19:37 Tracey Takase: Maui
00:19:37 Ryan Castle: Central PA
00:19:44 Cindy Kraus: Manhattan KS the little apple
00:19:44 Hong Pun: Hi from San Jose, California
00:19:51 Laurel Pollard: Hi from NH
00:19:54 Lynn Selking: iowa
00:19:55 Robert Cop: Ottawa, ON, Canada
00:20:05 Maulik Shah: India
00:20:06 Anthony Robb: from Yalligup western australia
00:20:07 Edmond Lau: Hi, this is Edmond from Hong Kong. ;)
00:20:14 Emily Kavanagh: Hello from Columbia, MD
00:20:36 Renee Hoard: Hello from Georgia USA!
00:20:57 Leslee Francis-Pelton: Hi from Victoria, BC, Canada
00:21:04 Kyunghoon Son: Hello from Boston :)
00:21:18 Trena Wilkerson: Welcome all! From all over the world! :-)
00:22:11 Trena Wilkerson: Hi Kevin!
00:22:25 Trena Wilkerson: Hi Dewey!
00:24:18 Liz Colleran: Access (or lack of)
00:24:21 Kyunghoon Son: accessibility
00:24:25 Lynn Selking: Some people have access to more resources than
others
00:24:31 Anthony Robb: not all have access to reliable technology

00:24:34 Renee Hoard: equal access to equipment and internet
00:24:34 Jennifer McDougall: Fair access and accessibility
00:24:35 Andrea DePaolo: All students should have equal access to digital tools
00:24:42 Kyunghoon Son: equitable digital literacy
00:24:43 Tracey Takase: Tech ability and access for all students
00:24:46 Mollie McDermott: The difference in access to technology and resources makes things unequal
00:24:54 Cindy Kraus: Technology in hand does not mean knowing how to capitalize using it
00:24:56 Melanie Slocum: We can't leave behind those who don't have access. We leave too much talent on the table.
00:24:58 Dewey Gottlieb: access to digital resources, but also access to effective instruction with those resources
00:25:29 Kevin Dykema: HI Trena- hope your travels tomorrow go well! Enjoy !!
00:25:39 Allison McCulloch: <https://student.desmos.com/join/33hej8>
00:26:44 Lydia DeRuijter: Can you please share the link again
00:26:50 Allison McCulloch: <https://student.desmos.com/join/33hej8>
00:29:51 Tracey Takase: Isn't there a linguistic difference between middle(median)and mean?
00:29:54 Denise Rawding: This doesn't seem much different than using a textbook or worksheet.
00:30:34 Trena Wilkerson: All packed! Excited and a bit nervous! :-)
00:32:56 Denise Rawding: The technology doesn't do anything to make the math come alive,
00:32:56 Lydia DeRuijter: I like how the students can reflect on the problem and not just provide an answer
00:33:03 Monica Vestal-Mashburn: How do we access the pages you are referring to?
00:33:22 Jennifer Lovett: <https://student.desmos.com/join/33hej8>
00:33:35 Tracey Takase: Are there prepared lessons on Desmos?
00:33:46 Allison McCulloch: <https://student.desmos.com/join/c4sw5g>
00:34:16 Blaga Nichols: It's working
00:35:10 Kate Reselosa: The first activity seemed to focus on understanding the procedure of finding the mean
00:36:17 Kate Reselosa: The first activity seemed to focus on understanding the procedure of finding the mean
00:36:34 Amanda Grossi: Visual/physical representation with students being able to manipulate the bears/data in order to build conceptual understanding
00:37:01 Lydia DeRuijter: I agree Amanda Grossi
00:37:28 Michelle Hayward: much better activity for mean!
00:38:45 Kevin Dykema: both focus on mean
00:38:55 Jennifer McDougall: They both get at the idea of mean and average
00:39:05 Sarah Tahir: data points are located on a scale
00:39:06 Cindy Kraus: students explain their thinking
00:39:06 Jennifer McDougall: They both put mean into context
00:39:08 Lydia DeRuijter: The mean and average visually
00:39:15 Denise Rawding: Students are exploring in this activity

00:39:15 Ryan Dougherty: Both have students doing the work and not the teacher showing how to

00:39:37 Lydia DeRuiter: It allows the work to be checked as students progressed

00:39:38 Adam Kellam: static v dynamic

00:39:44 Isabelle Stimson: Second definitely has more progression for understanding

00:39:47 Liz Colleran: Activity 1 = focus on formula; Activity 2 = exploring

00:39:48 Kevin Dykema: 1st- procedural; 2nd- building conceptual understanding

00:40:05 Melanie Slocum: More discovery with #2

00:40:31 Kyunghoon Son: The later utilized 'guided reinvention'.

00:40:49 Tracey Takase: Do they get to draw the bar models

00:40:57 Melanie Slocum: Much more interactive on #2

00:41:01 Jennifer McDougall: Concept visually vs just numbers (concrete vs abstract). Plus who doesn't love gummy bears?!

00:52:25 Anthony Robb: no other colour for L

00:53:10 Ryan Dougherty: Very cool to see the girls making connections

00:53:11 Charity Cayton: Anthony, Machine L provides a green can each time.

00:53:35 Denise Rawding: I love it when the one says, It's crazy!

00:53:45 Allison McCulloch: Me too Denise :-)

00:54:25 Kate Reselosa: It's interesting how the idea of a function in this vending machine activity transcends language barriers

00:54:31 Amanda Grossi: I appreciate how the visual introduction to functions is easily understandable across a language barrier.

00:54:42 Tracey Takase: I just like students having conversations but trial and error

00:54:48 Melanie Slocum: Click and go!

00:54:50 Liz Colleran: The visual nature gave everyone an entry point

00:54:51 Cindy Kraus: low floor, everyone could experiment, formulate ideas and test them

00:54:52 Elizabeth Barlow: It gave the students a context that they are familiar with the explore

00:54:53 Edmond Lau: It is very inviting.

00:54:54 Anthony Robb: at start no right or wrong answer

00:54:56 Anne Feeney: They could all just click and look for patterns.

00:54:56 Jennifer McDougall: Observations using color and a common product vs numbers

00:54:57 Mollie McDermott: They didn't need any real instruction, just start using the applet

00:54:58 Linda Jones: Love that they were discovering what a function is

00:55:01 Blaga Nichols: Students are constructing their own vocab

00:55:06 Ryan Dougherty: Simple easy to use tool

00:55:11 Tabatha Ridenour: The could explore with no pressure of a right or wrong answer

00:55:12 Denise Rawding: By using the applet, they could try it over and over.

00:56:07 Dewey Gottlieb: They started with simply "notice and wonder" without having their exploration constrained by a formal definition

00:56:12 Melanie Slocum: Take as much time to decide as needed.
00:56:22 Mollie McDermott: exactly!
00:56:32 Linda Jones: They did not need much common language, they have used a vending machine.
00:56:39 Tracey Takase: I think the word "wonder" is so important to start off investigations
00:56:42 Denise Rawding: Takes the fear out of learning about functions.
00:56:50 Jennifer McDougall: It looks like there are many machines (A-L?) so students can work at different paces
00:57:00 Lydia DeRuitter: It gives them power in their exploration
00:57:25 Tracey Takase: It gave them a chance to experiment
00:57:28 Blaga Nichols: It has enough constraints that you can extrapolate from it
00:57:34 Anthony Robb: they were able to work together and make changes
00:57:36 Liz Colleran: It gave them a context they could relate to so that they could create their own definition
00:57:41 Cindy Kraus: cause and effect or input/output
00:57:42 Edmond Lau: It gives the students some real-life experience to match the definition.
00:57:48 Jennifer McDougall: It showed whether each button gave the same type of soda each time it was pushed or not.
00:57:50 Kyunghoon Son: easily reverse their experiment result
00:57:52 Melanie Slocum: Back to notice and reason out which is a function, what is not.
00:57:56 Katelyn Dilley: They were able to play with it to discover the meaning and an experience.
00:57:56 Denise Rawding: Students were able to see how the one machine only gave out green even when they clicked on different colors.
00:57:58 Linda Jones: I gave examples of "Almost a function" but then the colors switched
00:58:03 Anne Feeney: It allowed them to work at their own paces.
00:58:17 Anthony Robb: its like guess and check but with an aim
00:58:22 Kate Reselosa: This can help students start to think about the inputs & outputs of a function
00:59:16 Cindy Kraus: persistence required
00:59:38 Kyunghoon Son: It allows student to construct the concept of function based on their experience and instinct that have already existed.
00:59:47 Jennifer McDougall: No numbers involved for those who "fear" then
01:00:07 Liz Colleran: The students were SMILING!!!
01:00:15 Charity Cayton: 😊
01:00:19 Ryan Dougherty: Both were really engaged
01:00:27 Adam Kellam: They were communicating and excited about the concepts
01:00:30 Cindy Kraus: stayed engaged with learning
01:00:33 Isabelle Stimson: They were using non-mathematical terms to describe what was happening
01:00:35 Anthony Robb: when would you bring them together to discuss results
01:00:37 Melanie Slocum: Both really engaged in the task.

01:00:40 Katelyn Dilley: They were curious.

01:01:01 Kyunghoon Son: It was nice to see one student could finish her explanation with reflection and modification.

01:02:35 Anthony Robb: the task was accessible to all students

01:03:07 Tom Reardon: I prefer the phrase "trial and success"

01:04:00 Allison McCulloch:
<https://teacher.desmos.com/activitybuilder/custom/59de912a3f06a210c73513fa?collections=featured-collections%2C5da8a6474d5c010a4455b470>

01:04:17 Allison McCulloch: <https://student.desmos.com/join/c4sw5g>

01:04:23 Blaga Nichols: No need for prior stats knowledge

01:04:25 Cindy Kraus: it seems like playing

01:04:31 Melanie Slocum: Click and move the bears.

01:04:34 Jennifer McDougall: Immediate feedback

01:04:36 Kevin Dykema: they could use trial and error

01:04:37 Denise Rawding: Students moved the bears and then checked it it balanced.

01:04:42 Isabelle Stimson: use of a balance beam, like a seesaw

01:04:46 Bernadette Carnes: Their own experience with balancing.

01:04:47 Linda Jones: Started with one bear..

01:04:57 Kyunghoon Son: a huge impulse to touch bears...

01:05:08 Cindy Kraus: seemed less judgemental

01:05:38 Jennifer McDougall: Fewer words!

01:06:24 Kate Reselosa: Not sure if this makes sense, but in what situations should we introduce a working definition versus a formal definition?

01:06:55 Melanie Slocum: I actually thought the graph was confusing, took a moment to see all the parts on that graph.

01:07:03 Denise Rawding: How many of us were never taught that it's a balance point? We just learned the procedure.

01:07:10 Kyunghoon Son: By doing the bear activity, the concept of outlier sensibility is naturally drawn. I think outlier issue is very important when learning average.

01:07:15 Anthony Robb: where do we find these tasks

01:07:26 Anthony Robb: thanks

01:07:39 Tracey Takase: I love to use scales for also balanced equations

01:08:13 Cindy Kraus: the balance create opportunities for mental math

01:09:02 Anthony Robb: the article is great!!

01:09:12 Renee Hoard: Thank you so much for sharing. These are great examples to show the difference between using technology to redeliver a worksheet and using technology to inspire student thinking.

01:10:14 Trena Wilkerson: Thank you! Using technology in this thoughtful way empowers students and engages them deeply in the mathematics!

01:10:22 Kate Reselosa: In what situations should we introduce a working definition versus a formal definition?

01:10:22 Renee Hoard: Is Geogebra free?

01:10:35 Tracey Takase: Can you send us a link to the article and hyperdoc

01:10:50 Tracey Takase: Thank you!

01:10:51 Kyunghoon Son: Thank you so much for the presentation. It helps me a lot to apply Desmos/GeoGebra to elementary mathematics levels.

01:10:55 Cindy Kraus: the issue for many is the time to develop activities for a entire curriculum. I have spent time looking but many concepts we need to

teach just don't resources available.

01:11:09 Melanie Slocum: Thank you. This is such an important discussion of leveling the playing field for all the Mathers of the world!

01:11:15 Michelle Hayward: @Cindy= DITTO

01:11:25 Ryan Dougherty: Thank you

01:11:47 Jennifer Lovett: It depends. But I think all definitions could start as working definitions and formalize them across a lesson, series of lessons, or a unit

01:12:01 Stephen Levesque: Thank you. Definitely made me think about making entry points to content more accessible for all.

01:12:17 Blaga Nichols: Saving paper on some geometry explorations for sure :)

01:13:01 Renee Hoard: what is the breakdown of technology activities vs paper activities in your classroom??

01:13:01 Adam Kellam: So much paper has been used in my geometry classes over the years, lol

01:13:28 Elizabeth Barlow: Thank you!

01:13:30 Kate Reselosa: Thank you!

01:13:31 Mollie McDermott: Thank you!!

01:13:37 Chonda Long: Handout -

https://www.nctm.org/uploadedFiles/Conferences_and_Professional_Development/Webinars_and_Webcasts/Webcasts/2021-10-27_Webinar_Handout.pdf

01:13:39 Blaga Nichols: Between Desmos and formative there's no paper lost

01:13:39 Isabelle Stimson: Thank you!

01:13:41 Lydia DeRuitter: Thank you for a great presentation

01:13:41 Edmond Lau: Thank you!

01:13:42 Renata Carvalho: Thank you!

01:13:43 Karen Hollebrands: Thank you!

01:13:46 Chonda Long: Handout -

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01:13:49 Jennifer Lovett:

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01:14:07 Michael Blasberg: Will the recording be shared? I had to join late.

01:14:08 Lisa Stonefoot: Thank you

01:14:09 Adam Kellam: Do you have any suggestions on how to learn to create these kinds of activities

01:14:15 Chonda Long: The recording will be shared

01:14:17 Renee Hoard: Do you guys do f2f presentations??

01:14:18 Anthony Robb: thanks it was really worthwhile getting up early in the morning for your session

01:14:18 Lynn Selking: Thank you! I'm inspired!

01:14:21 Pip Arnold: Thank you. That was really useful.

01:14:23 Michael Blasberg: Thanks!

01:14:25 Karin Lee: thank you

01:14:43 Leslee Francis-Pelton: Thank you!

01:14:49 Chonda Long: Handout -

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01:14:57 Tammy Jones: Where is the table you mentioned?

01:15:03 Amanda Grossi: As we return to in-person instruction, and in light of the importance of students interacting face-to-face, what guidelines would you recommend for a teacher who is making an instructional decision about whether/when to use technology for a particular task?

01:15:03 Emerlina Binuya: Thank you!

01:15:52 Tracey Takase: Do you have an algebra tile PD that you lead?

01:16:07 Liz Colleran: I took an online workshop through the Bureau of Education Research about how to create your own customized Desmos activities

01:16:29 Anthony Robb: thanks this is my first ever zoom and it worked great

01:16:41 Tom Reardon: Do you have suggestions for the teachers who are using graphing calculators and have been using them?

01:16:42 Amanda Grossi: Thank you , Jennifer.

01:17:01 Mary Hayburn: Thank you.

01:17:01 Renee Hoard: awesome!!

01:17:08 Tammy Jones: Thanks!

01:17:17 Jennifer McDougall: Thank you so much!

01:18:34 Tom Reardon: I agree. We use graphing calculators as a teaching and learning tool and as an exploration and discovery tool. Thanks.

01:18:35 Tammy Jones: I love to have students paper cut the difference of squares!

01:18:37 Liz Colleran: Desmos = a free graphing calculator!

01:19:54 Tracey Takase: Thank you ...I have to get back to class. I was able to sneak this in and my students got to hear the first part of the webinar.

01:20:01 Michelle Hayward: what was that math goggle thing called?

01:20:04 Anthony Robb: Plop it is great for stats

01:20:18 Lydia DeRuitter: desmos connects to google classroom

01:20:26 Jennifer Lovett: CODAP

01:20:26 Ryan Dougherty: Have you used Brainingcamp Virtual manipulative?

01:20:44 Renee Hoard: Stats Medics just released a series of DESMOS activities!! All Free

01:21:11 Cindy Kraus: most resources are procedural based. our textbook attempts to include an exploration but many times its not interactive nor does it really invite creativity - the time to create the ideas for a curriculum is the issue

01:21:16 Anne Feeney: Thank you!

01:21:19 Amanda Grossi: Thank you Jennifer, Allison, Charity, and Chonda.

01:21:19 Michael Porrazzo: Thank you, all!

01:21:24 Christina Azmy: Thank you!

01:21:27 Jennifer Lovett:

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01:21:36 Allison McCulloch: Thanks for joining us!

01:21:46 Liz Colleran: Thanks so much - this was inspirational!

01:21:53 Charity Cayton: Thank you so much for taking time to join us!!

01:22:04 Katelyn Dilley: Thank y'all!

01:22:17 Denise Rawding: Thank you so much! This was wonderful!

01:22:22 Karen Hollebrands: Great job Allison, Jen, and Charity!

01:22:24

Blaga Nichols: Thank you!