

00:27:38 Trena Wilkerson: Hello from Waco, TX!  
00:27:51 Emily Kavanagh: Hi from Columbia, MD  
00:27:57 Kristen LeGeyt: hi from nh  
00:28:12 Cindy Bryant: Hello and welcome from Springfield, MO! So glad you  
could join this evening.  
00:28:18 sonia black: Sonia from CA  
00:28:18 Angelina Gutierrez: Hello from Texas!  
00:28:18 Elizabeth Sawyer: Hello from Arizona! THis is my 4th  
00:28:19 Tricia Stohr-Hunt: Greetings from Richmond, VA.  
00:28:21 Pamela Liegl: Hi from Pam in Streator, IL  
00:28:22 Jessica Rock: Hello from Chicago!  
00:28:23 LF W: Good morning from Singapore  
00:28:24 Summer Cofer: Hi  
00:28:25 Nina El Hassanieh: Hello from Lebanon  
00:28:26 Nancy Zheng: Hi from NYC!  
00:28:26 MYLA DETECIO: good morning from the Philippines  
00:28:27 Janet Josephson: Hi Mandy from Janet!!  
00:28:27 Rebecca Hill: Good evening from Batavia, IL!  
00:28:28 Sarah Miller: hello from New Jersey  
00:28:29 Jennifer Wolfe: Hello Friend! Jen from Tucson, AZ  
00:28:29 Jill Perry: Hello from NJ!  
00:28:29 Kathleen McFadden: Hi from Queens NY  
00:28:31 Sharon Dawkins: Sharon from Brooklyn NY  
00:28:32 Pam Cadena: Hi from Southern California!  
00:28:32 Adrienne Lazes: Hello from West stockbridge, ma  
00:28:33 Susan Olander: Hi from Oak Lawn, IL  
00:28:35 Aya Zvaigzne: Greetings from Nashville, TN  
00:28:35 ABDUL OTHMAN: Hello from Malaysia  
00:28:38 Carol Matsumoto: Hi from Winnipeg. Hi Amanda!  
00:28:43 Rachael Welder: Hi from TX, Mandy!!  
00:28:46 Beverly Bailey: Diamond, Ohio  
00:28:47 Karli Remata: Hello from Hawaii  
00:28:51 Beth Kobett: Good evening! So excited to be here Mandy!  
00:28:53 Olga Kosheleva: Hi from El Paso, TX  
00:28:54 Kathryn Dees: Hello from Las Vegas! Kathy  
00:28:54 Sohnia Malik: Hello from Michigan  
00:28:55 Marie Pitre: Hello from Los Angeles!  
00:28:56 Cindy Bryant: Please set your chat to "All panelists and  
attendees" so that everyone can see all of your chat posts!  
00:29:09 Nuri Martini M.Pd.: Good Morning Everyone ....I am from Indonesia  
00:29:10 Tanya Landry: Hi from Baton Rouge!  
00:29:11 Sarah Barrett: Hi from Elfrida, AZ  
00:29:13 Daniel Irving: Hello from North Providence, RI!  
00:29:15 Lisa Aldous: Hello from Maryland!  
00:29:18 Adrienne Lazes: Hello from west stockbridge, ma  
00:29:19 Anahita Dhalla: Hi good morning from Mumbai.  
00:29:19 Anna Gianina Reynolds: Hello from Anaheim, California!  
00:29:22 Dee Crescitelli: Hi from Kentucky!  
00:29:23 Ava Sawin: Hello from Salley, SC  
00:29:23 Marshae Carroll: Hello from Indianapolis

00:29:26 Logan Valentine: Hello from CA  
00:29:28 Jessica Hayes: Hi from Tennessee!  
00:29:30 Cindy Bruckner: Hello from Virginia!  
00:29:31 Carol Matsumoto: What no Faith!  
00:29:32 Amy Burge: minneapolis  
00:29:32 Sarah Brady: Texas  
00:29:34 Ashia Smith: Augusta Georgia  
00:29:36 Julie Mainwaring: Hello from Portland, Oregon!  
00:29:38 Mary Raczek: Hello from suburbs of Chicago!  
00:29:43 Mark Trushkowsky: Mark from Minneapolis, Minnesota!  
00:29:45 Shannon McPartland: Hello from NJ!  
00:29:45 Jenny Sagrillo: Hi from Milwaukee, WI  
00:29:46 Aya Zvaigzne: Best greetings to Indonesian and Mumbai  
00:29:47 Christy Graybeal: Hi from Maryland  
00:29:48 Melanie Janzen: Hi from San Bernardino, California!  
00:29:49 Michele Conyers: Napa, Ca  
00:29:50 Keri Naso: Long Island New York  
00:29:50 aurora gonzales: hi from Philippines  
00:29:53 Rebecca Rumler: Moline, Illinois!  
00:29:56 Cindy Cliche: Hello from Murfreesboro, TN  
00:29:57 Cindy Bryant: Please set your chat to "All panelists and  
attendees" so that everyone can see all of your chat posts!  
00:30:00 Jenny Sagrillo: Hi from Milwaukee, WI  
00:30:01 Barb Blanke: San Luis Obispo, CA!  
00:30:01 Karen Campe: Hello from Connecticut!!  
00:30:01 Amie Albrecht: Hello from Adelaide, Australia!  
00:30:02 Michael Lanstrum: Hello from Cleveland, Ohio  
00:30:02 Cliff Parent: NJ  
00:30:04 Jennifer Holland: Hello from Peyton, Colorado!  
00:30:05 Donna Misciagna: Hello from Tucson, AZ!  
00:30:06 Kimberly Fisher: Hi Mandy! It's Kim from MSU @ Traverse City!  
00:30:06 Lance Brauchla: Hello from IN!  
00:30:08 Azniv Shahmelikian: hi all, from reseda ca.  
00:30:08 Michael Chrzan: What up doe?! From Detroit, MI!  
00:30:09 Barb Blanke: HI Mike!  
00:30:11 Kami Soverall: Hello from NYC  
00:30:11 Laura Monahan: Hello from Sacramento, CA  
00:30:11 Tracy Huynh: Hi! From Fountain Valley, CA  
00:30:12 Rachael Welder: Hi from TX Mandy!!  
00:30:18 David Buitenveld: Hi From Olympia, WA  
00:30:34 Aya Zvaigzne: 97 !!!!!  
00:30:56 Lance Brauchla: 97th....wow It's been a great ride!  
00:31:22 Carolyn Choi: Hello Mike and Mandy :) From sunny Portland . .  
00:31:31 Leah Simon: Hello from Dayton, Ohio!  
00:31:35 Ramona Hall: Hello from Charlotte, NC!  
00:31:46 Lisa Lambuth: Hi from Los Angeles! 20 somethingth  
00:31:46 Rolly Quilang: Rolly From Las Vegas Nevada  
00:31:49 Lindsay Hovermale: can you please rename me transcriber?  
00:31:56 Trena Wilkerson: Indeed so fun #97!!  
00:31:56 Farshid Safi: Greetings from Orlando, FL!

00:32:00 Tameillia Cain: Hello from Stone Mountain!  
00:32:07 Annabella de guzman: Hello from Maryland  
00:32:18 Sandra Puglisi: Hi everyone from New Rochelle MY  
00:32:25 Rosalyn Bantay: good morning from Philippines  
00:32:26 Troy King: Greetings from Bermuda to everyone  
00:32:38 Karen Campe: This is a PRIME webinar #97  
00:32:42 Bill Hudson: Hello from Fountain Inn SC  
00:32:43 jennie: hello from Lancaster, Pa  
00:32:44 Krysia Tramont: Hello from Delaware  
00:32:57 Suzanne Sundbye: Hello from Colorado!  
00:33:00 Kevin Felice: Let's Go Blue Hens!!!!  
00:33:01 Skip Fennell: Hello from Westminster, Maryland  
00:33:22 Cindy Bryant: Please set your chat to "All panelists and attendees" so that everyone can see all of your chat posts!  
00:33:50 Pam Brett: hello from Middletown NJ!  
00:33:50 WARASABON DOMINIKUS: Hallo from Indonesia  
00:33:59 Cathy Cullicott: You're awesome, that's who you are!  
00:34:23 Rachell Scott: Hello from Maryland!  
00:35:02 Tracy Huynh: Love pinball too : )  
00:35:11 Cindy Bryant: Please set your chat to "All panelists and attendees" so that everyone can see all of your chat posts  
00:35:25 Mike Shaughnessy: Yeah MSU  
00:35:26 Michael Chrzan: Go Blue!  
00:36:04 Andrea Ogden: Hello from Fairfax County in Northern Virginia  
00:36:11 Barbara Post: Hello from Orange, CA  
00:36:18 David Barnes: <http://tinyurl.com/NCTM100RD>  
00:36:28 David Barnes: <http://tinyurl.com/NCTM100RD>  
00:36:42 Sharon Black-MacKinnon: greetings from New Brunswick, Canada  
00:37:04 Justin Klinger: Hi from IL  
00:37:13 Renee Parsley: Hello from Delaware!  
00:37:14 Barbara Post: encourages students to keep trying and not shut down once they have a solution/answer.  
00:37:19 Jessica Hayes: To understand thought processes of students  
00:37:24 Cindy Bryant: To monitor initial thinking about a problem or mathematical situation  
00:37:33 Karen Campe: Lower the barrier to starting the math learning process... it doesn't have to be "perfect" first time  
00:37:38 Jennifer Thomas: knowing how a student is thinking  
00:37:45 Kathleen McFadden: Give students the space to state what they think is happening and try their solutions .  
00:37:46 MYLA DETECIO: to help students figure out how to go through the correct process  
00:37:49 Amaya Lambert: help students focus on process over product (the answer)  
00:37:49 Skip Fennell: Asking for a "rough draft" enables learners to submit an initial thought(s) without penalty. It free  
00:37:50 Kami Soverall: To revise their thinking over and over  
00:37:50 Sharon Black-MacKinnon: understand what students are thinin  
00:37:53 Sharon Black-MacKinnon: king  
00:37:54 CHERYL ANN DOYLE E BARRAN: to see if students understood the

problem

00:37:54 MICHAEL KAROLEWICZ: I have a question that students can answer

00:38:01 Jo-Ann Shields: Students can begin getting their thoughts and can aid in discussions so students may revise their thoughts based on other's thoughts/strategies

00:38:07 Amaya Lambert: help students consider multiple strategies

00:38:12 Skip Fennell: Rough drafts free up thinking

00:38:12 Rolly Quilang: the thinking process that the students have at present time

00:38:18 Todd Smallcanyon: where it might be a problem

00:38:29 Luciana Elizarraras: Get students thinking and get them to share ideas

00:38:40 Amaya Lambert: reduce anxiety perfectionism

00:38:57 Barb Fukushima: allows students to work through the process not focus on the product

00:39:12 Tameillia Cain: creates a safe space for possible errors

00:39:18 Lance Brauchla: Show the transition that rarely in life and often in math there are multiple solutions. Sell your idea! and WHY!!!!

00:39:39 Mike Shaughnessy: Go Once!

00:39:44 Mike Shaughnessy: Lance

00:39:49 Andrea Ogden: And kindness to yourself

00:39:59 Emily Kavanagh: allows them to make mistakes

00:40:32 Annie Menninger: small ice cubes

00:40:34 Diana Galvan: smaller icecubes

00:40:35 Kami Soverall: 3 cubes

00:40:37 Leonard Felix Therik: single ice cube

00:40:37 Glen Sherman: One single ice cube. Melts more slowly.

00:40:42 Aya Zvaigzne: I would rather have a few million dollars

00:40:43 Lisa Aldous: one cube, melts slower

00:40:44 Karen Campe: small, because chills the drink faster

00:40:44 Kendra Edwards: 1 cube because melts slower

00:40:44 Leah Simon: small ice cubes because they dissolve faster and I don't like ice that much

00:40:45 Rebecca Hill: "lemonade" smaller cubes for more chewing

00:40:45 Gabrielle Haney: Larger ice cube. Melts slower

00:40:45 Amie Albrecht: One single ice cube.

00:40:47 MICHAEL KAROLEWICZ: small, more surface area

00:40:47 Anna Gianina Reynolds: 1 big ice cube because it melts slower

00:40:48 Rebecca Rumler: one smaller- less melting

00:40:48 Logan Valentine: One big ice cube because it will melt slower

00:40:48 Bailey Cooper: small, better for chewing haha

00:40:49 Jenny Sagrillo: One larger because less surface area and it melts slower

00:40:51 Jessica Rock: Big cube. More fun!

00:40:51 Krysia Tramont: one single so it doesn't melt as fast

00:40:51 Jo-Ann Shields: a lot of smaller ice cubes: I like to chew ice

00:40:51 Adrienne Lazes: Neither - I hate ice cubes. If I have to choose, 1 as less than I need to not maneuver liquid around.

00:40:52 Andrea Ogden: I'd rather have smaller icecubes because I think the capacity of the lemonade would be greater vs. the glass with the large ice cube.

00:40:52 Nina El Hassanieh: smaller ice cubes  
00:40:53 Elisa Waingort: A lot of smaller ice cubes because it's easier to handle the ice in my mouth if it's smaller.  
00:40:53 Mark Trushkowsky: The one with the single large ice cube, because it melts slower.  
00:40:53 Katelyn Devine: the giant ice cube because it will melt more slowly as it has less surface area  
00:40:53 Sharon Dawkins: one giant icecube because it will last longer  
00:40:53 Mary Raczek: Smaller ice cubs- I like to crunch on ice  
00:40:54 Lisa Lambuth: Small ones because I like to chew on them  
00:40:54 Jada Pearson: Smaller ones to cool the liquid more quickly  
00:40:54 Cindy Cliche: small ice cubes because it may keep my drink colder  
00:40:54 Jennifer Rolling: smaller surface area  
00:40:54 Annie Menninger: small ice cubes because i like to chew the ice at the end  
00:40:55 Ethan Weker: Depends on what's in the glass and how much dilution I want.  
00:40:55 Lauren Jackson: Smaller ice cube. More surface area to make drink colder, faster  
00:40:55 Shannon McPartland: 1 large ice cube - melts slowly, won't dilute the lemonade!  
00:40:55 Christy Graybeal: small to cool faster  
00:40:56 Nuri Martini M.Pd.: I will choose big ice cube, take long to melting  
00:40:57 Lauren Brauer: a lot of small ice cubes because it is easier to chew on after  
00:40:57 Emily Kavanagh: Huge cube would melt slower  
00:40:57 Jennifer Wolfe: One large because it better with Bourbon :-)  
00:40:58 Sarah Miller: smaller ice cubes because I like to chew on ice  
00:40:58 Jessica Hayes: small ones because the big one will probably smack me in the face  
00:40:58 Cathy Cullicott: Smaller ones, so one big one doesn't hit you in the face every time you drink.  
00:40:58 Minerva Villegas: A lot of smaller ice cubes because it prevents spilling onto myself  
00:40:59 Michael Chrzan: Smaller, they melt faster  
00:40:59 Elizabeth Sawyer: more smaller - more surface area = faster cooling?  
00:40:59 Tanya Landry: More cubes - greater surface area - cools more  
00:41:00 Michele Conyers: depends on what the lemonade tastes like  
00:41:00 Kathleen McFadden: Smaller cubes , like how it looks better.  
00:41:00 Barbara Post: small ice cubes give more surface area to fill in.  
00:41:01 Sarah Akins: small ice cubes, nice to crunch on  
00:41:03 Beverly Bailey: small ones, more surface area  
00:41:04 Sharon Black-MacKinnon: neither I am not a fan of ice  
00:41:04 Pria Saptono: small ice cubes  
00:41:04 Jennifer Holland: Smaller ice cubes, they dissolve faster and it would be smaller ice cubes potentially hitting my teeth rather than one large one.  
00:41:04 Pam Brett: one big ice cube bc it's prettier

00:41:05 Lance Brauchla: One ice cube if whiskey, Multiple for  
lemonade....get it cold quicker.

00:41:05 Suzanne Sundbye: Small ice cubes as to crunch on them

00:41:05 Cindy Bryant: smaller ice cubes because they will cool my drink  
more quickly

00:41:06 Sandra Puglisi: Smaller, so I don't knock my teeth out when I take a  
drink

00:41:06 Erika Hassay: small because i like to crunch them.

00:41:07 Laura Flesta: smaller because I want to chew the ice

00:41:09 Marshae Carroll: I would rather have a lot of small ice cubes  
because I like to eat the ice after drinking the lemonade.

00:41:09 Tatiana Pereyra: One giant ice cube because it will take  
longer to melt and take more time to dilute the drink.

00:41:09 Robert Reider: One large ice cube because the ice cube would melt  
slower than the 3 smaller cubes.

00:41:10 Tameillia Cain: large cube -

00:41:11 Laura Monahan: It depends on the temperature of the lemonade, but  
the small ones make more sense

00:41:13 Pam Cadena: 3 cubes--I like the ice

00:41:14 Azniv Shahmelikian: large one, it takes longer time to melt.

00:41:15 Annabella de guzman: Lot of small ones because that will make my  
drink colder

00:41:17 Bonnie Basu: I would rather have one big ice cube because the ice  
cubes wouldn't get in the way of drinking the liquid.

00:41:17 Cliff Parent: smaller ... more room for the "lemonade" to get in  
between.

00:41:17 Mark Trushkowsky: I love the sound of a single large cube in a  
glass.

00:41:18 Linda Adams: more smaller because they melt faster and I like to  
eat my ice plus they clink

00:41:18 Todd Smallcanyon: small, cools quick

00:41:19 Farshid Safi: 3 small ice cubes...sound of 3 is different than the  
sound of 1

00:41:22 Melanie Doody: One big cube. The combined surface area would be  
less so it will melt slower and my lemonade won't get watered down.

00:41:23 Barb Fukushima: smaller ice cubes because i like to swirl my  
lemonade around with the ice cubes

00:41:23 LF W: small... can chew

00:41:54 Donna Misciagna: small ice cubes. The large one would be  
worse if it sloshed toward me as I drank.

00:42:13 Rachell Scott: small cubes because keeps the lemonade colder.

00:43:17 Faith Peddie: Here is a link tp the Ice Cube lesson  
<https://www.mathalicious.com/lessons/ice-cubed>

00:43:33 Ethan Weker: Was just doing a Mathalicious lesson with my Algebra  
Class! Love that resource!

00:43:56 Sharon Black-MacKinnon: @Faith, thank you

00:45:05 MIKE GENUEL SALAZAR: Good morning!

00:49:40 Ava Sawin: Lost signal but am back again. Hello, from Salley,  
SC

00:49:43 Andrea Ogden: So happy to hear this reiterated here - I'm an

outward processor and talking and writing about my thinking is how I make sense of ideas.

00:49:45 Ethan Weker: One of the best parts of Mathalicious (and other modeling) assignments/projects - when the question drives the math which drives a solution which drives further questioning and more math. Is that solution really best? What else do we need to consider?

00:51:15 Mohamed T: Awesome ideas!!

00:51:49 Mike Shaughnessy: Everyone, set your chat to "All Panelists AND ATTENDEES. Please

00:52:31 Anett Chicomny Pon: thanks Ethan

00:52:42 Anett Chicomny Pon: Thanks Mike!

00:53:55 Trena Wilkerson: Teacher as learner is so important and shifts from all knower to one who is learning as well!

00:54:45 Karen Campe: It takes the focus away from RIGHT vs. WRONG thinking in math class, away from answer-getting

00:55:24 Farshid Safi: Love the non-evaluative discussion aspect...listening and seeking to understand, rather than critique!

00:55:34 Emily Cunningham: can you give a secondary math example that has helped you teach a concept better the next time because you had insights into common misunderstandings?

00:56:18 Emily Kavanagh: Great Principles and Practices

00:56:20 Jennifer Wolfe: Yes! Dismantling hierarchies of competence!

00:56:26 Trena Wilkerson: Hi Farshid! Great point about non-evaluative!

00:57:05 Farshid Safi: Hi Trena! Learning from Mandy to elevate student thinking! Such a great session!

00:57:43 Trena Wilkerson: Indeed @Farshid-learning so much!

01:00:36 Karen Campe: GREAT sentence starters to develop norms for productive commentary among students

01:00:59 Jessica Rock: I want to piggyback off that idea...

01:01:04 Jennifer Wolfe: What I heard you say was...and it helped me think about....

01:01:07 Melissa Hofmann: I agree with or disagree with...

01:01:08 Farshid Safi: This reminds me of ...

01:01:11 Rakitia Delk: That reminds me of...

01:01:12 Denise Pelkey: I connected this idea with

01:01:14 Mary Raczek: That reminds me of a similar problem

01:01:17 Karen Campe: This builds on something else we know...

01:01:24 Daniel Raguse: IS that the same as...

01:01:28 Mike Shaughnessy: That surprised me because...

01:01:31 Andrea Ogden: I notice that you...

01:01:32 Tameillia Cain: That's is similar too

01:01:33 Bailey Cooper: "can you clarify ... for me"

01:01:34 Denise Pelkey: This helped me better understand ...

01:01:39 Linda Adams: what you are saying makes sense because

01:01:43 Sarah Miller: I respect what you said but disagree because...

01:01:44 Tameillia Cain: Help me understand

01:01:44 Tatiana Pereyra: Can you tell me how you...

01:01:49 Daniel Raguse: Is that the same as ...

01:01:51 Karen Campe: Can you say more?

01:02:10 Linda Adams: tell me more about your thinking  
01:02:14 Andréa Chew: Wow!...Can you tell me more?  
01:02:38 Jennifer Wolfe: @Bailey-good one!  
01:03:13 Mike Shaughnessy: HI Dan!!  
01:03:40 Rakitia Delk: That reminds me of the difference between revising  
and editing in the writing process that we teach to students.  
01:03:41 Karen Campe: I think this is a great way to approach geometry  
proofs  
01:05:53 Cliff Parent: OH HELL NO  
01:05:55 Cindy Bryant: YIKES!!!  
01:05:59 Pam Brett: omg!!!!  
01:06:03 Karen Campe: Never in a million years...  
01:06:07 Trena Wilkerson: Not me!  
01:06:16 LeAnna Deveaux-Miller: I am weak  
01:06:19 Tameillia Cain: At least once  
01:06:19 Lance Brauchla: Looks like a rush!  
01:06:21 Dee Crescitelli: I would TOTALLY get on this!!!  
01:06:32 Robert Reider: graphingstories.com has a lot of 15 second videos  
that provide students opportunities to sketch graphs of different situations.  
01:06:32 Dee Crescitelli: I would TOTALLY get on this!!!  
01:07:13 Karen Campe: @Robert good resource, thanks  
01:07:16 Farshid Safi: flat line as I would have passed out and collapsed!  
01:07:29 Veronica Kwok: ^^^facts haha  
01:07:44 Veronica Kwok: Actually no...I wouldn't have gotten on in the first  
place haha  
01:07:58 Karen Campe: Here's a resource from Shell education  
01:07:59 Karen Campe:  
<https://www.mathshell.com/materials.php?item=lfq&series=tss>  
01:08:31 Trena Wilkerson: One of my favorite books @Karen!  
01:08:48 Karen Campe: @Trena, it's a classic!!  
01:08:50 Sarah Miller: love graphing stories  
01:08:56 Jennifer Holland: We just did these types of problems in my  
Algebra A class today.  
01:09:16 Trena Wilkerson: Right @Karen!  
01:09:37 Faith Peddie: <http://www.graphingstories.com/>  
01:10:04 Yif Dai: I developed a performance task on Damped Harmonic  
Motion for my Year 11 students last semester:  
<https://teacher.desmos.com/activitybuilder/custom/5ee1a743938fc776b8129272>  
01:10:55 Mike Shaughnessy: Cool Yif!  
01:12:12 Jessica Rock: Solving a problem  
01:12:35 Mark Trushkowsky: I was biking on flat ground and then I went  
up a hill and then rode down a longer hill.  
01:12:35 Karen Campe: Driving along highway at moderate speed, slow down  
because car ahead is slower, then speed up to pass, and end up at higher speed than  
original  
01:12:36 Andrea Ogden: I was driving at a constant speed and started  
slowing down for a red light, but it turned green before I stopped and I was able to  
accelerate.  
01:12:39 Michael Chrzan: "I was driving home and slowed down to turn onto the  
freeway then began speeding up to merge"

01:12:42 Rebecca Hill: Joey is walking at a constant pace with friends. He stumbles then catches up with friend.

01:12:42 Kami Soverall: Traveling on a highway

01:12:43 Leah Simon: A car is moving at a constant rate down the road, slows to turn on to the highway, and then accelerates to match the traffic.

01:12:46 Melissa Hofmann: Running a race, started walking because I was tired, then sped up at the end of the race

01:12:47 Robert Reider: I am driving at a constant rate, but have to slow down to make a turn and immediately accelerate after making the turn.

01:12:48 Daniel Raguse: Driving on the highway, slow down because I come upon a car, but then speed up to pass

01:12:49 Annie Menninger: A swimmer is swimming at a constant speed in open water. She gets a cramp in her calf and slows down. Then there is a shark chasing her

01:12:56 Michele Conyers: riding a bike level, up a hill, and down

01:12:59 Mary Mills: Driving a car, went down a hill, the had to drive up

01:13:03 Michael Chrzan: ^ LOL

01:13:05 Anett Chicomny Pon: a basketball player running down the court, deeks (I think that's a word) then moves ahead

01:13:05 Sarah Miller: driving on a local road, slowing down to merge to a highway

01:13:12 Logan Valentine: Walking at a steady pace to your grandmas house, you slow down because you see a wounded animal. You pick up the wounded animal and rush it to a vet

01:13:14 Denise Pelkey: you running on a flat path then you start running up a hill and then you reach the top of the hill and run down

01:13:15 Glen Sherman: Tour de France. Cyclist riding at a constant speed for a bit, then goes uphill, where speed slows over time, then downhill where speed increases quickly.

01:13:16 Linda Adams: I was driving down the highway behind a police officer who signaled to turn so I had to slow down. when he turned I spend up.

01:13:19 Lisa Aldous: You were driving down a street, you slow to get on the on-ramp to a major highway, then accelerated onto the highway

01:13:21 Mike Shaughnessy: Like the shark story!!

01:13:30 Ethan Weker: I was writing along at a good clip for a while, but then I started to lose inspiration at first. Then I suddenly realized how the story would end, and wrote faster and faster to get there.

01:13:31 MICHAEL KAROLEWICZ: I was on a roller coaster getting started, went up to the hill, then went down

01:13:37 Randolph Chapman: Car was driving on a local road. Had to slow down to get on to the highway ramp, then speeds up on the highway

01:13:42 Lauren Jackson: A hummingbird was fluttering along, saw a sweet flower, hovered near the flower while sipping sweet nectar, than accelerated away when he saw a dog quickly approaching.

01:13:52 Todd Smallcanyon: runner constant, then slows down, to finish accelerate

01:13:56 LeAnna Deveaux-Miller: LOL @Annie

01:14:16 Tameillia Cain: I am that student

01:14:53 Linda Adams: brilliant questions. I love that. also best mistake

is another one.

01:15:47 Trish Harris: (This is such a great session.)  
01:15:56 Beth Kobett: Really powerful statement!  
01:16:12 Denise Pelkey: It also could bring another graph - how can we show height instead of time? etc  
01:16:46 Barb Blanke: For sure established positive norms for students to be risk-takers.  
01:17:07 Denise Pelkey: Great point @Barb  
01:17:39 Cliff Parent: what up, NBTHS!!  
01:17:48 Melissa Benedict: Hi!!!  
01:17:53 Yif Dai: Love this quote  
01:18:05 Tameillia Cain: True  
01:18:07 Pam Cadena: I love this quote and this process!\n  
01:18:19 Farshid Safi: Such an important point!!  
01:18:32 Leonard Felix Therik: love it  
01:18:58 Anett Chicomny Pon: Great - includes some answers to questions that have come up for me.  
01:19:19 Sharon Dawkins: Awesome  
01:19:29 sonia black: So excited to get started trying this process with my students, Thank you so much!  
01:19:33 Mohamed T: Great ideas, Rough draft makes better.  
01:19:41 Rakitia Delk: This was great. Thanks!  
01:19:57 Michael Chrzan: Any links to that article???\n  
01:19:58 sonia black: Great book!  
01:19:59 Rahmi Ramadhani: great ideas.. 👍  
01:20:18 Andrea Ogden: Thanks so much, Mandy. :)\n  
01:20:24 Sarah Miller: can we have a link to that article?  
01:20:26 Jada Pearson: Thank you! This is what we are trying to do with our early learners so that they are rough draft thinkers and sharers as they move up the grade levels:)\n  
01:20:28 David Barnes:  
[https://www.nctm.org/Publications/Mathematics-Teaching-in-Middle-School/2018/Vol24/Issue3/MTMS-Favorites\\_-%E2%80%9CRough-Draft-Talk-in-Mathematics-Classrooms%E2%80%9D/](https://www.nctm.org/Publications/Mathematics-Teaching-in-Middle-School/2018/Vol24/Issue3/MTMS-Favorites_-%E2%80%9CRough-Draft-Talk-in-Mathematics-Classrooms%E2%80%9D/)  
01:20:35 Emily Cunningham: Thank you for helping put the smile back in math class!  
01:20:49 Jill Perry: Project Zero – I used to think . . . Now I think!  
01:20:53 Michael Chrzan: Thank you!  
01:21:00 Candice Kumor: I used to think rough drafts were only for RLA but now I know they are for MATH too  
01:21:08 Melissa Hofmann: Collaboration with students  
01:21:17 David Barnes: @Candice - YES!  
01:21:19 Kathleen McFadden: I used to think rough drafts were for ELA , and now I think how great this method can work for math..  
01:21:26 Elizabeth Sawyer: I used to think student presentations were final product, but now I like the idea of rough draft presenting  
01:21:34 Laura Monahan: I used to think that rough draft thinking could be done casually, but now I think I need to plan carefully for scaffolding the structures  
01:21:35 Rebecca Hill: I used to think it was challenging to get students to communicate, and now I think there is a structure to support this

01:21:38 Sarah Miller: I used to think rough drafts were only for written work but rough drafts can be used in conversations

01:21:41 Pam Cadena: I used to think that this was important idea, but I had no idea how to put into practice. And now I think I can see how I could use this process even though I teach 2nd grade.

01:21:44 Andrea Ogden: I used to think rough draft thinking in math was a little abstract. Now I think structures and deliberate planning has made the idea of implementation more digestible.

01:21:46 Rose: I used to think I was alone in y thinking, but now I know others want to see math education change.

01:21:47 MICHAEL KAROLEWICZ: I used to think rough drafts were for English, now they can be used for STEM

01:21:48 Rakitia Delk: I use to think that rough draft in math would be correcting mistakes but now I see it can include changing ideas and developing concepts.

01:21:49 Michael Chrzan: I used to think... students needed opportunities to return to their thinking  
And now I think... those opportunities don't need to be reinvented for math

01:21:55 Andréa Chew: I used to think rough drafts were for English class but now I know that can be used for math.

01:21:55 Mary Raczek: I used to think students should not share incorrect answers as it might confuse others, now I think these mistakes are steps in learning and can clarify for others

01:21:56 MICHAEL MCGOVERN: validates what I always thought about with concrete examples of how to implement at multiple levels

01:21:56 Leonard Felix Therik: Rough draft is very useful now for math, let me try this for my elementary students

01:21:59 Melonie Smith: What was the name of the site again?

01:21:59 Ethan Weker: I used to think that rough drafts were exclusively for proofs or larger projects in math, but now I think they can be used a lot more widely in our activities.

01:22:00 Farshid Safi: I used to think our students learn from us, And now I think we learn from our students and each other!

01:22:06 Robert Reider: I used to think that rough drafts were about the writing process, but now I think that rough drafts can be used in any learning process.

01:22:07 Annie Menninger: I used to think a rough draft in math could only be revised if it was incorrect. Now I think that all rough drafts in math can be made better in some way whether the answer was right or wrong

01:22:07 Christina Tully: I used to think rough drafts were formal and now I think they can be informal and done in so many different ways!!

01:22:09 Maria Padiernos: Actually I have always been on this wavelength, glad to know that there are other people out there that is riding the same wave!!!

01:22:11 Barb Blanke: We are all rough drafts of the mathematicians we are still becoming!

01:22:17 Daniel Raguse: I used to think there wasn't a way of talking about mindset but now rough draft gives me a way

01:22:18 Logan Valentine: I used to think of rough drafts as a writing tool and now I think rough drafts can be used to teach a variety of disciplines

01:22:21 Renice Samuels: I use to think rough drafts were fir prior knowledge but it can also use for reviews and main activities

01:22:26 Melissa Benedict: I used to think rough draft was only for writing but now i think it can be used in math for open discussions

01:22:27 Mike Shaughnessy: I used to think rough draft thinking was for the thinker, but now I think that are more for the listeners...

01:22:27 Sharon Dawkins: I used to think rough drafts were for the ela classroom and now I think that this will be a great way to engage my students and build self confidence.

01:22:29 Lisa Aldous: We've used rough drafts/multiple drafts for years now in our advanced/gifted math program, I am now looking forward to using those strategies with ALL students!

01:22:30 Lauren Brauer: I use to think Rough Draft thinking was just for English but now I know it can happen more often

01:22:31 Honey Sacro Swem: I used to think that rough drafts were just for writing essays/stories. And now, I know that rough drafts develops a growth mindset in mathematics.

01:22:35 Donna Misciagna: I used to think rough drafts were for writing a formal paper, and now I think I could use them to help students verbalize their thinking.

01:22:37 Kami Soverall: I used to think that students kept working on their own ideas for a task, now I think they build with the thinking of others.

01:22:41 Shannon McPartland: I didn't previously recognize the way that showing appreciation for students' rough draft thinking could help increase student feelings of competence.

01:22:47 Amaya Lambert: I thought this was going to be about fixing errors but now I see it's about communicating to learn together!

01:22:49 Anna Gianina Reynolds: I used to think that revisions were only needed when for errors in final answers, now I think that revisions can be used for so much more

01:22:51 Angelina Gutierrez: Grateful for the recordings! I got disconnected :/

01:22:51 Bonnie Basu: I used to think rough draft thinking was just about revising mistakes, but now I think revising is more about moving forward in the learning.

01:22:52 Amanda Jansen: <https://www.stenhouse.com/content/rough-draft-math>

01:22:57 Karen Campe: Used to think... how to help every student feel confident, Now I think... what a gift to students, that they don't have to be "done" too soon.

01:23:06 Tameillia Cain: I used to think that rough drafts were kinda private thought. Now I see the open thought helps with understanding

01:23:07 Ethan Weker: Love that @Bonnie!

01:23:07 Jill Perry:  
<http://www.pz.harvard.edu/resources/i-used-to-think-now-i-think>

01:23:16 Pamela Liegl: Mandy, great presentation with really useful, helpful, workable ideas for life long learners. Thanks!

01:23:20 Bonnie Basu: @Ethan - thanks!

01:23:35 Amie Albrecht: I use it at University level

01:23:42 Julie Mainwaring: I use to think that students needed more time to resolve their thinking before they shared out. I'm guessing the class has to

develop a strong culture of trust before that can happen.

01:23:44 Kristin Beyer: Useful information! A lot to think about. I want to try this in my math classroom!

01:23:44 Barb Blanke: Yes! All grades can do this and the sooner we start the deeper the discourse and thinking!

01:23:46 Karen Campe: Great comment @Bonnie!

01:23:51 WARASABONDOMINIKUS: a great presentation. thanks

01:23:52 Trena Wilkerson: Important for building/supporting positive student identity, agency and authority as thinkers and doers of mathematics.  
[www.nctm.org/change](http://www.nctm.org/change)

01:23:54 Farshid Safi: @Bonnie - Nice to see you on here! Miss you, my friend!

01:23:58 Bonnie Basu: Thanks @Karen!

01:24:08 Bonnie Basu: @Farshid - me too!

01:24:10 Mark Trushkowsky: It is really freeing for adult numeracy and high school equivalency students as well.

01:24:12 Melanie Janzen: Thank you so much! It gives us perspective and permission to think about things more deeply instead of always having to be correct!

01:24:16 Cindy Bryant: Thanks Mandy, great presentation!

01:24:25 Laura Monahan: Excellent presentation, Mandy! Thanks so much!

01:24:37 Keri Naso: thank you Mandy

01:24:42 Carol Matsumoto: Thanks Mandy!

01:24:57 Annabella de guzman: Thank you very much.

01:24:59 Tameillia Cain: Thanks Mandy!

01:25:00 Beth Kobett: Excellent presentation! Thank you, Mandy!

01:25:00 L Pearson: Thank you so much for the great ideas!!

01:25:02 Erin Moss: Thank you!

01:25:02 Nuri Martini M.Pd.: Thank You Ms Mandy

01:25:06 Maria Knuth: Great presentation! Thank you for the wealth of ideas!

01:25:06 Logan Valentine: Thank you!!

01:25:11 Suzanne Sundbye: Thank you! This was amazing!

01:25:11 Rolly Quilang: Thank you

01:25:12 Jill Perry: I used to think that "thinking" was mostly ephemeral – now I think we can purposefully plan for capturing and honoring what seemed ephemeral.

01:25:18 Kevin Felice: Awesome presentation! Miss the wonderful Math Ed department at UD and Ewing!

01:25:20 Emily Cunningham: what a great idea to revise warm up! so often it is used as a graded stressful task!

01:25:24 Andréa Chew: Thank you so much for a great presentation!

01:25:24 Barb Fukushima: Thank you!

01:25:26 Michael Chrzan: Great work! Thanks you!

01:25:27 Ethan Weker: Thanks!

01:25:28 MYLA DETECIO: Thank you! It was a great presentation.

01:25:29 Lisa Aldous: Thank you so much!

01:25:29 Mark Trushkowsky: This was a fantastic presentation. Thank you, Mandy!

01:25:29 Honey Sacro Swem: Thank you for sharing your expertise and resources. This is a great strategy to give voice to the voiceless in the

mathematics classrooms.

01:25:29 Eva Julianingsih: thank you Mandy :)  
01:25:30 Jennifer Holland: Thank you!!  
01:25:32 Lauren Brauer: thank you!  
01:25:34 Agus Budiman: thank you.  
01:25:34 Molly Rawding: Thanks, Mandy!! This was great!! You are inspiring!  
01:25:35 Elizabeth Sawyer: thank you!  
01:25:38 Anna Gianina Reynolds: Thank you so much for sharing this  
information!  
01:25:41 Tracy Huynh: Thank you Mandy for sharing all the wonderful ideas!  
01:25:47 Sharon Black-MacKinnon: Thank you so much for sharing!  
01:25:51 Shari Kaku: Thank you!  
01:25:57 Bonnie Basu: Thank you Mandy! I am so happy you wrote this book -  
much needed to change our trajectory of math.  
01:26:00 Maria Padiernos: So COOL! Thank you mucho much, Gracias!!!  
01:26:01 Rebecca Hill: 3ACT Tasks would do well with these!  
01:26:06 Daniel Irving: Thank you for this inspiring and informative  
presentation!  
01:26:07 Trena Wilkerson: Thank you Mandy! Great session, excellent  
resources, and opportunity to continue to learn!  
01:26:12 Wilmar Etienne: Math rough draft displays the importance of teamwork  
where the idea of every team member is of importance.  
01:26:16 Julie Mainwaring: Thank you Mandy!  
01:26:21 Jill Perry: Investigations curriculum for elementary – good  
source for prompts  
01:26:21 Sarah Akins: Thank you for sharing!!!  
01:26:25 Cindy Bruckner: Thank you!  
01:26:34 LeAnna Deveaux-Miller: I will be using rough drafts with my grade 4  
01:27:14 Rakitia Delk: Thank you for that clarification!  
01:27:14 LeAnna Deveaux-Miller: Thank you Mandy  
01:27:48 Jessica Rock: Thanks so much! My favorite session EVER!  
01:27:54 Leonard Felix Therik: "Terimakasih" Mandy from Indonesia  
01:27:58 Amaya Lambert: amazing! brava!  
01:28:00 Lisa Lambuth: This was awesome. Thank you!  
01:28:02 Barbara Post: Thank you.  
01:28:03 Jill Perry: Thank you, Mandy!  
01:28:03 Tanya Landry: Very nice. Thank you!  
01:28:04 Kami Soverall: Thank you. This was very insightful.  
01:28:08 Annie Menninger: Thank you this was very eye opening!  
01:28:09 Donna Misciagna: Thanks for sharing your great ideas.  
01:28:10 Davynn Roberts: Thank you!  
01:28:10 Kathleen McFadden: Another great session . Time well spent.  
01:28:12 Rachelle Wright: Thank you for all your sharing!!  
01:28:15 Farshid Safi: Thank you for making learning and mathematics  
education more human!  
01:28:15 Justin Klinger: Thank you  
01:28:16 Lance Brauchla: This is great....thanks!  
01:28:19 Leah Simon: Thank you Mandy!  
01:28:19 Jeff Shih: Thank you, Mandy!  
01:28:21 Karen Campe: THANK YOU!! Excellent!

01:28:22 Melonie Smith: Thank you for sharing.  
01:28:48 Tracey Streart: Our school is grading on process.progress and performance this year and this is such a great tool for progress and process!!!!  
01:28:58 ALEX QUYENVO: thank you !  
01:29:06 Bill Hudson: Thank you!  
01:29:10 Amanda Jansen: Thanks for coming, everyone! I appreciate everyone's time and insights!!!  
01:29:22 Angelina Gutierrez: Thank you SO much!!  
01:29:24 Rebecca Hill: Thank you so much! I absolutely loved this!  
01:29:35 Beth Kobett: Awesome work, Mandy!  
01:29:57 Emily Kavanagh: Thanks so much for an informative presentation.  
01:29:59 Denise Pelkey: Always nice to hear ideas that make us not so tired and gives us excitement to teach  
01:30:01 Amanda Jansen: thank you so much! I hope everyone joins NCTM and renews their NCTM memberships!!  
01:30:15 Nora Marasigan: Thank you so much!  
01:30:18 Trena Wilkerson: Great deal on membership! Join or renew today! [www.nctm.org/join](http://www.nctm.org/join) and remember to use the code!  
01:30:27 Wilmar Etienne: Thank you. Great ideas!  
01:30:40 Yif Dai: Cool, thanks!  
01:30:53 Ramona Hall: Thank you!  
01:31:03 Christina Tully: Thank you!  
01:31:06 Jennifer Wolfe: Thank you!  
01:31:15 Rahmi Ramadhani: thank you..  
01:31:17 LF W: Thank you!  
01:31:18 Nuri Martini M.Pd.: Thank you Panelists and NCTM Teams for Wonderful session today  
01:31:41 Daniel Raguse: What was the code for renewal?  
01:32:06 Trena Wilkerson: 100Days I think??? Faith?  
01:32:07 MYLA DETECIO: thank you nctm team!  
01:32:14 Anett Chicomny Pon: Thank you ...  
01:32:17 Esther Winikoff: thank you!  
01:32:18 Dee Crescitelli: Great job, Mandy!  
01:32:19 Sarah Miller: thank you!