Maria Eleonor Banares:hi, thanks for having me here. it's an opportunity.

Kristin Keith:Happy to have you with us Maria!

Maria Eleonor Banares:<3

Beckyk Sauer:I'm not hearning anything, and the directions are covered.

Kristin Keith:you may need to adjust the resolution of your screen to see instructions

Jeffrey Glenn:Hello from Detroit

Kristin Keith:Hi Jeffrey!

Kristin Keith:Where is everyone from?

Carrie Black:Hello from Tumwater, WA

Jordan Rock:Hello everyone from Laconia, NH!

Barb Borgwardt:Hi! Fountain City, WI

Leah Rineck:Hello from West Bend, WI (Near Milwaukee)

Maria Eleonor Banares:I'm from Cagayan de Oro City, Misanis Oriental, Philippines.

Suzie Spedden:Hello from Virginia Beach, VA

Stacie Kyhn:Hello from Apache Junction Arizona!

Michelle Butturini:Hi! Reedsville, WI. Barb, happy to see a familiar name:)

Jenny Sagrillo:Hello from Milwaukee, WI!

Barb Borgwardt:Michelle, I agree! Hope all is well with you!

Luanne Schnase:Hey from Sacramento, CA! This is my first one of these, and I'm looking forward to it!

Jenny Sagrillo:Hi, Leah - good to "see" you here!

hoyun cho:hello from Columbus, Ohio

Leah Rineck:Hi Jenny :)

Pat King:Pat King: Davis, CA

Dawn Del Vecchio:Hello from Pasadena, California!

Michelle Butturini:All is well here. Hope it is the same with you.

Cheryl Dow:Hello from Fairbanks, AK

Latrenda Knighten :Hello from Baton Rouge, LA

Barb Borgwardt:All is well here, too. School is winding down.

Lori Heatherly:Hello from Waynesville, NC

Theodore Howard:Hello from Dallas ,TX

Doranne Lacayo:Hello from Round Rock, TX

Susan Willison:Hello from Hingham, MA

Lori Heatherly:Theodore, are you a Cowboys fan?

Theodore Howard:Yes

Jessie Goldstein:Hi from Port Chester, NY

Sativa Carter:Hello from Castle Rock, WA

Angie Cummings:Im from Chattanooga, TN...hi

Lori Heatherly:Me too!!

Theodore Howard:Awesome

Terri Gibbs:Greetings from San Luis Obispo, CA

DeAnn Huinker:Hi everyone. Also here from Milwaukee.

Theodore Howard:Go Bucks

Leah Rineck:Hi DeAnn -

Patrick Todhunter:Hello form Brisbane Australia

Elizabeth Bieryla:Hello from Philadelphia, PA

Kenny Bayudan:hi all

Jerold Griggs:Hello Everybody from Conord, NC!

DeAnn Huinker:Hi Leah and Jenny and Michelle and Barb. Several of us from Wisconsin.

Gwen Hall:Greetings from North Carolina!

Tracey Deegan:Hello From Brewster, Cape Cod MA

Max Ray-Riek:Hi everyone, Max from Philadelphia, PA, USA (I work for NCTM and am going to try to help answer questions on the chat)

Neil Patrick Mallari:Greetings, I am Teacher Neil from the Philippines!

Bonnie Angel:Hello from Blue Ridge, Georgia

Jordan Rock:Go Packers!

Barb Borgwardt:Yes, theres's a nice group from Wisconsin!

Sativa Carter:Is this webinar scheduled for 1 hour?

Carrie Black:Hi Sativa! :)

Luanne Schnase:Thank you, Max!

Maria Rivera:Hola! From SJ, Puerto Rico

Michelle Butturini:Yes, it is good to see a nice showing from Wisconsin.

Stephanie Burton:Greetings from Richmond, VA

Jennifer Lewicki:Jennifer Lewicki, Soulsbyville California

Carrie Black:I believe it is only one hour

Max Ray-Riek:Yes, that's right, 1 hour long

Nancy Puerzer:Hello everyone from Wisconsin!

Jenny Sagrillo:Hello, DeAnn!

Magdy Rezkalla:Magdy Rezkalla

Erin Cross:Hello from California!

Kenny Bayudan:Magandang Umaga from Philippines!

Barb Borgwardt:Hi, Nancy!

Lori Mueller:Hello from southeast Iowa!

Jordan Rock:Kamusta!

Francis Kisner:It's a Beautiful Day in Pennsylvania.

Kit Luce:Kit here from Barrie, On, Canada

Dana Grosser-Clarkson:Hello from Washington DC

Alina Saroni:Greetings from Riverside, California

Kenny Bayudan:hello Jordan

Kristen Brock:Hello from Guatemala City!

Laurie James:Aloha from O'ahu

Max Ray-Riek:Wow, we really span the globe here! I wonder how many different time zones we cover! Thanks for coming, everyone!

Marie OBrien:Hello from HOT Tucson AZ!!!

Gina Mangum:Gina from Alabama!

brandy king:Hello! Brandy from New Baltimore, MI (near Detroit)

Maria Eleonor Banares:Maayong buntag from Mindanao, Philippines...

Denise Parker:Hello Denise from Upper Marlboro, MD

Jodi DenBleyker:Jodi DenBleyker: Hello from New Jersey

Chasity Gregory:Hello, Chastiy from soggy, soggy Central Kentucky

Julie McNamara:Hello from Hayward, California!

Maria Eleonor Banares:It's 7AM here.

Michelle George:Hi I'm Michelle George from New York

Michael Patterson:Hello from Las Vegas.

Martha Castro:good evening. Marty from Philippines.

Tiffany Thibodeau:Hello from Amherst MA

Julynda Pascua:hi I'm Julynda, also from the Philippines but based in China

Cassandra Parker:hifrom VA

Laura Hunter:Hello from Alabama

Brenda Skeete:Hi from Lakeland FL

Aimee Edmunds:Hi from snowy Calgary, Canada!

Lisa Saldivar:Hello from Gardena, CA

Deborah Duval:Aloha from Honolulu

Kathy Felt:Hello from Western Illinois

Chasity Gregory:where is the handouts??

Rachel Weissman:Hi from NYC

Mary Ellen Sablick:Hi from Teaxs!

Max Ray-Riek:Here are the handouts: http://www.nctm.org/uploadedFiles/Conferences_and_Professional_Development/Webinars_and_Webcasts/Webcasts/AuthorTalk_SmithWebinarHandouts_05-24-2017.pdf

Elizabeth Nelson:Hi from Cleveland, OH

Margaret Preston:Margaret from New Jersey

Max Ray-Riek:(that link will download a PDF)

CINDY FARMER:Hi from NC!

Tara Jaeger:Hi from Wisconsin!

Jerra Wood:Hi from Kentucky!

Jan Hutauruk:Hi everyone! Greetings from Bismarck, ND

Elizabeth Bean:Hi from Columbus ,Indiana!

Monique Sack:Hi from Ottawa, Canada

Jen Hindo:Hi from MI

Charity Morris:Hi from New Jersey

Verita Mason-Frempong:Greetings from Maryl

Martha Castro:high school math teacher

Amparo Moreno:hi from nj. I'm a 6-8 math teacher

Amparo Moreno:18 years

Martha Castro:5 years teaching

Mandy Joholske:Mandy Joholske , Maryland 22 years

Julynda Pascua:since 1994

Mary Velez:Hi from the Hudson Valley in NY

Caryn Trautz:Hi from NJ!

Amanda Carson:Hello from Western Illinois!

Wendy Phillips:Hello from MA

Kate Durst:Hi from San Bernardino, CA

Spencer Jamieson:Hi from Fairfax VA5

Elizabeth Motoki:Aloha from Pahoa, Hawaii

Caron Heiss:Caron Heiss: Good evening from Toronto, Ontario, Canada

Jeffrey Glenn:knowing many ways to solve a problem prepares the teacher for the different ways that students will try to complete the problem.

Rhonda Burns 2:Rhonda Burns - Hello from Georgetown KY

Donna Gardner:Hi from Severna Park, MD

Maria Ochoa:Hi from Arizona Maria Ochoa

Jeanet Card:Hello from Connecticut. I'm returning back to the classroom after two years off. I had taught 13 year prior to baby break.

Natalee Peoples:Hi everyone had a little difficulty logging on. Finally got everything to work from Baltimore City Public Schools

Fiona McDiarmid:Hello from New Zealand

Kristina Hill:Howdy! from Northeast TN

Halyna Fried:Halyna Fried from McDonogh School in MD

Jeffrey Glenn:most math teachers only teach one way which means only a few studnets will have access to understanding the problem

Tamara Buffalo:first year teacher in new jersey

Chasity Gregory:Yes, and it is still common practice to teach the same way they were taught

Jeffrey Glenn:Marie Hanson Jolly Rancher problem. Know it well.

Stella Raji:Hi I'm from Africentric Alt. in Toronto Canada

Michael Lanstrum:Cuyahoga Community College in Cleveland, OH

Max Ray-Riek:Here again is the link to download the handout, if you want your own copy of this page: http://www.nctm.org/uploadedFiles/Conferences_and_Professional_Development/Webinars_and_Webcasts/Webcasts/AuthorTalk_SmithWebinarHandouts_05-24-2017.pdf

Jeffrey Glenn:the candy jar invites the students to have connection to the math they are learning because all kids like candy!!

Jeffrey Glenn:equations don't have much engagement to learning the concept

Chasity Gregory:You could easily model this in a jar in the room and instantly grab their attention....

Jordan Rock:The candy jar also provides a visual or a way for students to represent the data in a real world scenario.

Caitlin Ritter:I like the low floor -high ceiling aspect of the candy jar. Kids afraid of fractions will still participate versus with the equation where they may be put off and shut down.

Michele Mailhot:the candy jar task allows more access to students, as it does not present itself as procedural in nature. The candy jar task will promote/support procedural fluency from developing conceptual undrstanding.

Michael Patterson:Both problems are seeking answers for ration problems, but the candy jar task feels more engaging and relevant.

Tracey Deegan:The equations provide a platform in which students can solve them with faulty reasoning and still look like they know what they are doing. In our classroom we call that a lucky wrong answer.

Dawn Del Vecchio:candy jar is visual, more concrete and missing value task is abstract

Ramona Priester:Finding the Missing Value just looks plain old scary!

Maria Eleonor Banares:the candy jar task promotes higher order thinking skill, students have to understand the problem before solving it.

Aimee Edmunds:In the second task, students are asked to solve using a previously memorized formula, with likely little understanding of the actual math behind it.

Natalee Peoples:The Candy Jar task is the task that promotes problem solving and reasoning. It also has multiple entry points that provide access for all students

Amanda Carson:several multiple entry points

Kenny Bayudan:the first one allows students to explain their answers

Aimee Edmunds:The candy jar doesn't provide an equation that is prescribed, instead students need to reason through the problem to decide on an effective strategy.

Amanda Carson:kids like candy....its about candy

Tara Jaeger:First one puts it into a situation which allows students to solve the problem in a variety of ways after they make sense of the problem

Marie OBrien:The candy jar has a higher DOK level

Rachel Weissman:is the audio cutting out for everyone?

Maria Ochoa:students can explain and are interested in candy.

Terri Gibbs:Missing value problems tend to lead a student in one specific solution strategy

Justen Foster:CJ more difficult for ELLs...

Lisa Saldivar:candy jar task could be solved with a ratio table and students would really have to think about the raltionship between the numbers

Neil Patrick Mallari:Candy Jar is can be executed using Concrete and Pictorial approaches, the FMV one is more abstract which makes it harder for the learners.

Martha Castro:bar modeling works

Michele Mailhot:sound is fine for me...

Jodi DenBleyker:some sound issues

Martha Castro:use #3

Amparo Moreno:3

CHONDA LONG:What kind of sound issues Jodi?

Christina Dafopoulos:Rachel, my audio is cutting out as well

Jodi DenBleyker:losing sound periodically. it's good now.

Tracey Deegan:Mine also is in and out'

Jessie Goldstein:After several years of trying these tasks in a special education middle school math classroom, I wonde when we will be given motivators for those who do not have the abilitiy to enter a task like the candy jar without significant preteaching...

Amanda Carson:I have used both tasks. When I used FMV problem I had students create scenarios like the candy jar problem

Justen Foster:Agree with you Jessie

CHONDA LONG:I am not having audio issues on my end. Maybe run the audio set up

CHONDA LONG:if the problems continue

Spencer Jamieson:I would love to say I would only use the candy jar but because of assessments the second task needs to take place

Tiffany Thibodeau:Justen Foster, that's an interesting point. How do we support ELL students with problem solving with text-rich problems?

Michelle George:what does FMV mean

Alicia Castillo:Find Missing Value

Max Ray-Riek:FMV = Find Missing Value

Terri Gibbs:I use the 3 Read Strategy with my students and preservice teachers, or the "I notice..... I wonder.... " prompts. This allows EL's to enter the tasks as well

Jessie Goldstein:Where that may help ELLs with a typical learning background, I have not found a particularly helpful strategy to implement with students with SIFE and/or special needs

Kit Luce:Jessie, as a Special Education teacher as well, I think the issue is more about providing tasks that are accessible. So adjusting numbers in the Candy Jar task would be an example. I don't think the issue is preteaching, but providing tasks at just that right zone

Ramona Priester:Came in late. Did she mention a K-5 version of the Taking Action Series?

Max Ray-Riek:Hi Ramona -- that book is on its way to the printers, we'll let you know when it's published!

Spencer Jamieson:How are Tasks different than Problem or project based learning/

Ramona Priester:Thanks, Max!

Nicole Coqueran:do you suggestions as where to find high quality tasks

Laura Hunter:What is your definition of task?

Lori Heatherly:Illustrative Math has many tasks and are organized by CCSS

Elizabeth Bieryla:I like you cubed and MAP for high quality tasks/problems

Mary Velez:@Nicole: I take questions I like from text book and strip them down completely. I remove the steps and leave just enough information for them to start thinking. I guess it's more to get them curious and keep them hooked in the learning process.

Max Ray-Riek:Hi Nicole -- you might also check out the Classroom Resources tab on NCTM, and the journal for your grade band

Jeffrey Glenn:using the higher numbered problems in textbooks are a good source for finding better problems.

Tara Jaeger:Dan Meyer: https://docs.google.com/spreadsheets/d/1jXSt_CoDzyDFeJimZxnhgwOVsWkTQEsfqouLWNNC6Z4/edit#gid=0

Rhonda Burns:Having tech issues due to weather... in-and-out

Tara Jaeger:You Cubed is great:)

Dana Grosser-Clarkson:http://map.mathshell.org/index.php MARS has tasks with student work and full lesson plans

Nicole Coqueran:thanks

CHONDA LONG:Rhonda - There will be a recording available

Elizabeth Bieryla:Yes - MARS is what I meant when I said MAP. Thanks, Dana!!!

Jordan Rock:Ive used an example of this question but with cows and chickens

CHONDA LONG:you will receive an email with a link to access it. You can view the recording if you continue to have issues

Aimee Edmunds:What grade level would this problem be? I always think that the tasks I choose are always too high!

Tiffany Thibodeau:Haha, I use the cow and chicken problem too!

Max Ray-Riek:Jessie, you might want to look into presentations and writing by Andrew Gael (@bkdidact on Twitter) -- he's done a lot of problem solving with students with severe learning disabilities. Here's a blog post he wrote for NCTM: http://www.nctm.org/Publications/Teaching-Children-Mathematics/Blog/Opening-the-Middle-of-Special-Education-Math-Tasks/

Tiffany Thibodeau:Grade 8, systems of linear equations

Francis Kisner:I downloaded the material just before the presentation but the examples do not appear to be in the packet.

Jeffrey Glenn:Both approaches are valid for solving this problem. One is more efficient than the other and would come with more practice and understanding of the concept.

Luanne Schnase:Same here, Francis.

Jessie Goldstein:Thanks Max!

Martha Castro:5

Amparo Moreno:3

Jessie Goldstein:Chonda - will we be able to refer back to the chat as well?

Brenda Skeete:I didn't see all the solutions so I can say for sure

Brenda Skeete:can't say

Norma Borenstein-Gordon:Sorry arriving late - Norma Gordon, Math Coach MA - will there be an archived recording?

Francis Kisner:Could you put up the slide with 3 and 4 again?

CHONDA LONG:Yes, a transcript of the chat will also be availalbe

Tracey Deegan:The last solution included the "why" behind what that student was thinking. The rest rely on assuming we know what the student knows

Caryn Trautz:Hi @Norma!

Norma Borenstein-Gordon:Hello Caryn

Aimee Edmunds:At the end of every task, I always ask "Thinking Questions" which I used to gauge their understanding beyond what I can through their work.

Norma Borenstein-Gordon:Aimee do you have standard ones you use?

Jeffrey Glenn:I think it would be beneficial to show students what their freinds do to solve problems and have a discussion about these various ways.

Jeffrey Glenn:the discussion could be steered to what is most efficient

Gina Mangum:I agree Jeffrey. My students love to come to the board and share how they solved the problem.

Natalee Peoples:Jeffrey I agree with you.

Norma Borenstein-Gordon:I wonder if they might draw it out?

Gina Mangum:Sequencing those possibilities is helpful as well, starting with the most accessible.

Lori Heatherly:I think Solution A shows all of that thinking as well. C+M = 13 shows they understand there were 13 vehicles.

Aimee Edmunds:Norma - I don't necessarily have any specific ones. Usually depends on the task. But they usually are focused around: Explain how you solved it. Could you solve it in another way? Why did you choose that particular operation? How would you explain this problem to a younger student?

Lori Heatherly:2M + 4C shows an understanding of number of wheels on each

Michele Mailhot:is our goal to always steer the students to the most efficienct approach to solving a problem, or is our goal to support the student in seeing the many ways to gain access into a problem?

Tiffany Thibodeau:The interesting thing is that many students are not able to construct these types of equations accurately without truly understanding the problem.

Jerold Griggs:Solution D can also be represented visually.

Mary Velez:I usually have my students working in 2s or 3s up around the room. The explaining happens along the way and they do gallery walks on their own to see what everyone else did.

Lori Heatherly:Tiffany, I agree. I think A shows a very deep level of understanding

Laura Hunter:Educreations is a great app that allows students to record their voice while notating on the iPad.

Jerra Wood:Making connections between D and E is interesting, with one starting with the numer of vehicles and the otehr starting with the number of wheels.

Norma Borenstein-Gordon:I wonder how the students might compare and contrast each others work

Gina Mangum:I like the gallery walk idea!

Tara Jaeger:Gina and Jeffrey: A helpful book for those of you that like to have students show their solutions: http://www.nctm.org/store/Products/(eBook)-5-Practices-for-Orchestrating-Productive-Mathematics-Discussions-(PDF)/

Gina Mangum:Thanks, Tara!

Mary Velez:you can see what they did this week at @vel112358132134

Max Ray-Riek:(and Peg, our presenter, is one of the authors of that book!)

Gina Mangum:I actually have that book! I am in graduate school right now, so it is one of our required texts.

Jeffrey Glenn:If we increase the time that we discuss and debate we have to cut down on the number of concepts that are taught in a school year. Our textbooks have way more concepts in them that can be truly be done in a year.

Tara Jaeger:Gina, you mentioned sequencing so I'm thinking you may have read it but wanted to share just in case you haven't.

Natalee Peoples:Gallery Walks are great especially when students collaborate and a protocol like "Tellers and Travelers" is used

Jordan Rock:natalle-I call that the "stay or stray"

Caryn Trautz:I totally agree with you Jeffrey!

Natalee Peoples:Jordan I like that name as well

Kathrine Gilman:Is there a slide up right now?

Jeffrey Glenn:Sometimes its hard to think how a student thinks because we are already locked into the most efficient method from our own learning.

Michele Mailhot:are the textbooks your curriculum, or are they just a resource?

Max Ray-Riek:Kathrine -- yes, the slide just changed to "Key Messages Chapter 6"

Holly Rhoads:Would a teacher reading these books be able to use what they read if they have not read Principles to Actions

Brenda Skeete:Tara, that link doesn't work.

Jeffrey Glenn:Keeping a file of student work from year to year is impartant too.

Gina Mangum:I agree Jeffrey. I have found that my students often come up with a simpler way to solve a problem than I was going to show.

Mary Velez:@holly Yes

Tara Jaeger:Brenda, which link? I sent two.

Aimee Edmunds:If many students have used one particular operations to solve a problem, I often ask them the question "Could you solve it using another operation?" (I teach grade 4)

Gina Mangum:I think so, Holly.

Mary Velez:but PtoA is a quick read and totally worth it

Kristina Hill:@Brenda: I did a copy and paste

Tara Jaeger:I agree, Mary!

Gina Mangum:Agree with Mary. It's a great resource.

Brenda Skeete:I did too

Lisa Saldivar:That's a great idea, Jeffrey. Student work from previous years can give us toolbox of strategies that we can explore and discuss with our kids

Jeffrey Glenn:it draws in more students to participate

Max Ray-Riek:Holly, a good place to start in Principles to Actions is the chapter about the 8 Math Teaching Practices: http://www.nctm.org/Conferences-and-Professional-Development/Principles-to-Actions-Toolkit/Resources/7-EffectiveMathematicsTeachingPractices/

Holly Rhoads:@Mary, I agree, I have read it, but I am thinking about sharing with my teachers who may not do both. Thanks so much.

Tracey Deegan:Aimee, I do as well and I also teach 4th. It is also a great way to challenge the high level students by asking if there is a way to solve it with less calculations. They love the challenge!

Jen Hindo:This is similar to 5 Practices book from NTCM

Max Ray-Riek:If the teaching practices handout makes sense to your teachers, they'd be ready to dive into Taking Actions

Justen Foster:This is my first year using Eureka curriuculum(previously Engage NY) and uses a similar approach

Tara Jaeger:Brenda: This should work. https://www.amazon.com/Practices-Orchestrating-Productive-Mathematics-Discussions/dp/0873536770

Jordan Rock:Peg, do you think we lean towards algebraic is because it is the most simplified way to represent a problem or solution, or do you think that we gravitate towards algebra because that is what we as math teachers are used to seeing?

Justen Foster:Free and very high order thinking

Holly Rhoads:Thank you Max

Stacie Kyhn:http://map.mathshell.org/tasks.php

Jordan Rock:I think that the other ways to represent these situations do show understanding, but I look for students to understand the algebraic representation as well

Brenda Skeete:Thanks Tara Jaeger

Neil Patrick Mallari:Anchor Tasks

Tara Jaeger:NCTM Illumination link: https://illuminations.nctm.org/

Shawn Towle 2:I've also found some great tasks here: https://nrich.maths.org/

Laura Hunter:How do we help teachers see the importance of knowing the representations that come before and after their cyrrent grade?

Martha Castro:thank you Tara.

Kyle Atkin:I think we gravitate to the algebra becasue of years of standardized testing thta focused on that.

Jordan Rock:Thank you!

Jeffrey Glenn:Thats why so many people hate math later in life. they never have their method validated or acknowledged

Terri Gibbs:These items and strategies are also great to use with PLC

Mary Velez:@Laura I think making people teach a variety of grades is wise

Terri Gibbs:as it allows teachers the opportunity to discuss the mulitple entry points a student may use

Michele Mailhot:Laura, a great way to help teachers see what comes before and after their current grades is to have cross grade conversations! Take a concept and grow it from Kindergarten up!

Maria Ochoa: I like the idea of having the students make a representations because they have a visual to help them discuss the mathematical idea.

Max Ray-Riek:Holly and Terri -- for planning for PLCs, the Principles to Actions toolkit might help too: http://www.nctm.org/PtAToolkit/

Joseph Espinosa:Is there a book for K-5 coming out as well?

Lori Heatherly:A book study on this book would be a great PLC activity

Max Ray-Riek:The Jolly Rancher task came from that toolkit!

CHONDA LONG:Lori - I agree!

DeAnn Huinker:Maria, I so agree with you. The visual gives students not only something to talk about, but leaves a trace of their thinking and reasoning.

Terri Gibbs:It sure is... I use it all the time as a foundation for all PLC and Workshops/Presentations I do.

CHONDA LONG:Joseph - yes the K-5 book is coming out soon

DeAnn Huinker:Yes, a K-5 Taking Action book will be available soon within a few weeks!!

Max Ray-Riek:Glad it's useful, Terri!

Julie McNamara:I've done the cube task with many secondary preservice and inservice teachers. Lots of good conversations ensue.

Norma Borenstein-Gordon:Nice task - we just did this in our staff meeting - we even talked about launching without the questions - "notice and wonder like" (Hi Max!)

Tara Jaeger:Thank you, Max. I have not seen this yet.

Suzanne Alejandre:(Hi Norma!)

Norma Borenstein-Gordon:Hi Suzanne!

Mary Velez:Hi Suzanne

Suzanne Alejandre:Hi Mary!

Holly Rhoads:Thanks again Max

Amparo Moreno:I don't see or hear any video

Martha Castro:I don't see nor hear any as well. I am just re-reading the script in the handout.

Amparo Moreno:I finally see it

Fay Zenigami:Not streaming well

Jeffrey Glenn:Great task and discussion!!

Kenny Bayudan:it's intermittent

Tara Jaeger:I love that the teacher allowed the students to have the discussion. He didn't jump in when the students disagreed. The students had the discussion and worked through it. The teacher came in at some point to ask questions to guide students.

Alicia Castillo:good student discourse gives me goosebumps! :)

Natalee Peoples:Tara I noticed that as well.

Jeffrey Glenn:The imprtant part of the discussions is how the variable was defined.

CHONDA LONG:if you had trouble watching the video, it may come out better in the recording

Margaret Byrd:Excellent questioning...students were talking through the math instead of being told the math! YAY!

Rhonda Burns:passion for their student work...

Tara Jaeger:The pictoral helped when they had two different equations.

Lori Heatherly:That teacher has done a lot of training of those kids so they understand how to conduct mathematical discourse! NICE JOB!

Elizabeth Bieryla:Tried to post this before - Something to think about - I l won't put out only supplies that can be used to solve problems like these. Instead I leave all of my supplies out at all times. If I put out just cubes, students might be guided toward using them but by leaving out all tools, students have think about what would work bes for themt to solve a problem.

Julie McNamara:The discourse helped make it clear how students were defining the variable. At first at seemed like just cross-talk, but then it become clear how they were seeing it.

Jeffrey Glenn:without a common agreement on what variables understand then confusion could enter the understanding of the problem and solution

Gina Mangum:I love how they were both right, but it came down to defining the variable.

Nancy Puerzer:I loved when students were defending and reasoning about their solution strategies.

Karen Johnson:It was a pleasure observing the student discourse.

Maria Ochoa:The discourse allows the students to see a different approach to the same problem.

Ramona Priester:It was nice for the teacher to not comment on which solution was correct and to let students figure it out by comparing differing strategies.

Max Ray-Riek:If the video didn't work and you want to watch it later or share with teachers: http://www.nctm.org/Conferences-and-Professional-Development/Principles-to-Actions-Toolkit/The-Case-of-Peter-Dubno-and-the-Counting-Cubes-Task/

Mary Velez:I call these math fights in my classroom

Margaret Byrd:Even when students don't "need" models, it aids in their communication with one another to have a reference.

Max Ray-Riek:(it's part of the PtoA Toolkit)

Laura Falk:Each person is wired to think of these situations differently. There is not one way that is right. As long as that person can explain and support their procedures and answers, these ways should be respected.

Elizabeth Bieryla:I liked that the teacher wouldn't comment which was correct and made them defend it

Natalee Peoples:Discourse betwwen students is an excellent way to hear what students are thinking about the math they are learning. It definitely helps students make sense of the math they are working with.

Aimee Edmunds:Sometimes during this conversations, its hard to think of the "right" question to prompt them with.

Jeffrey Glenn:the discourse allowed multiple represenations to be seen by everyone which would give them validation on their method and understanding

Laura Falk:And the answer is correct of course. :O)

Suhas Saha:The discussion helped the students to differ in their conclusions and the third student found out why the difference was

Meg Peterson:this is a great example of mathematical discourse. how does this look k-2?

Jeffrey Glenn:math talks are fun to do in a lesson

Rachel Krott:when students work on this problem, students with different needs could be given different roles so that everyone is involved regardless of their original mathematical understanding

Mary Velez:SOmetimes when this starts in my room I find myself gravitiating to the kids not participating. The heated discussion can make some kids uncomfortable, so I try to touch base and see what they're thinking. Then I try to encourage them to interject their thoughts. Our norms are posted, so they know it's ok to jump in.

Jeffrey Glenn:american teachers don't like to see students struggle. we rush to help or give hints rather than letting htem struggle and figure it out themselves.

Jodi DenBleyker 2:Audio is going crazy!

Jeffrey Glenn:many asian classes allow students to struggle

Jeffrey Glenn:with math problems

Max Ray-Riek:Again, if it was hard to see the video, you can watch it later or share it with teachers here: http://www.nctm.org/Conferences-and-Professional-Development/Principles-to-Actions-Toolkit/The-Case-of-Peter-Dubno-and-the-Counting-Cubes-Task/

Martha Castro:5

Suhas Saha:teh teacher supported students struggle

Amparo Moreno:5

Suhas Saha:4

Jeffrey Glenn:The Teacher Gap and the Learning Gap are great books to read about the way American teachers teach and how other countries do it differently.

Julie McNamara:It makes sense that another student, not one involved in the initial discussion, was able to point out the difference in defining the variable. Kids /adults get very focused on their own way of thinking so that it can be difficult to think another way.

Max Ray-Riek:Meg, there's some video in the PtoA toolkit from Kindergarten: http://www.nctm.org/Conferences-and-Professional-Development/Principles-to-Actions-Toolkit/The-Case-of-Amanda-Smith-and-the-Donuts-Task/

Julie McNamara:I LOVE the donuts clip!

Max Ray-Riek:I notice the teacher is more active in facilitating but prompts the students to consider each others' ideas and connect their thinking to others... just like the students do for themselves in the middle-school clip

Julie McNamara:Is there an offer code for the books?

Melissa Gallagher:How do you suggest helping preservice teachers learn how to plan for orchestrating discourse?

Max Ray-Riek:Here is the link for the Toolkit Peg is talking about right now: http://www.nctm.org/PtAToolkit/

CHONDA LONG:Julie - there isn't a discount code for the book right now

Julie McNamara:Ok, thanks Chonda!

Kenny Bayudan:Should the focus be conceptual understanding or procedural knowledge in G11/12?

Kenny Bayudan:which one?

CHONDA LONG:There is a code for the summer Institute!

Kenny Bayudan:or both?

Mary Velez:@kenny Both

Natalee Peoples:Kenny both...

Max Ray-Riek:Melissa, I would add to Peg's answer that using archived stdent work, pulling out 10-15 examples, and having students select and sequence which students would share is great

Melissa Gallagher:Thanks, Max.

Mary Velez:I find that spending the concpetual time makes kids happy and included, and builds persevenaence for the procedural stuff

Max Ray-Riek:Over the summer NCTM staff will be adding student work sets to some of the Math Forum problems here: http://www.nctm.org/Classroom-Resources/CRCC/Math-Forum-Problems-of-the-Week-Resources/

Julie McNamara:Thank you -- just ordered the books!

Max Ray-Riek:And Melissa, there are already smaller sets of student work for each problem from the Math Forum in the Teacher Packet

Carrie Black:thank you so much!

Athena Pappaconstantine:Thank you

Michelle Butturini:Thank you

Jerra Wood:Thank you!

Fiona McDiarmid:thank you

Suhas Saha:Thank you

Mary Ellen Sablick:Thank you!

Tara Jaeger:Thank you

Mary Velez:Thanks

Aimee Edmunds:Thanks everyone!

DeAnn Huinker:Thank you, Peg!

Marie OBrien:Thank you

Karen Johnson:Thank you

Kristina Hill:Thank you!

Jerold Griggs:Thank You!

Gwen Hall:Thank you!

Jeffrey Glenn:thank you

Sherry Perih:Thank you!

Jen Hindo:Thank yiou!!!

Natalee Peoples:Yes...Thank You Peg

Rachel Krott:thank you!

Carol Jones:Thank you!

Julie McNamara:Thank you!

Laura Hunter:Thank you!

Martha Castro:ð

Suzie Spedden:Thank you so much!

Maria Ochoa:Thanks!

Tiffany Thibodeau:Thank you so much; this was great!

Gina Mangum:great presentation!

Michael Patterson:thank you!

Jeffrey Glenn:good refresher of what I did in my master's course a few years ago

Lisa Saldivar:Thank you and nice to see you all here!

Amparo Moreno:thanks!

Joseph Espinosa:Thank you!

Margaret Preston:Thank you...much to think about and experience!!

Margaret Ballinger:Thank you!

Doranne Lacayo:Thanks!

Neil Patrick Mallari:Thank You!

Martha Castro:Salamat (thank you).

Tracey Deegan:Thank you, nice follow up to a seminar I attended yesterday!

Maria Eleonor Banares:thank you very much

Rhonda Burns:Thanks!

April Taylor:thank you form Idaho

Shawn Towle 2:Thank you Peg!

Nadia Tajik:thank you

Suhas Saha:Thanks

Deborah Duval:Mahalo - Great thought provoking tasks!

Jeanet Card:Thank you!