

huaijun li 2:hello

Anuradha Sharma:hi

Anuradha Sharma:i am not able to hear music

Anuradha Sharma 2:hi....???

Judith Scholes:Me neither!

Judith Scholes:I have followed the links ..

Judith Scholes:ah! Wrong time zone ...

DONALD VICAREL:It is now 6:07 pm (1807 hrs) Eastern Standard Time.

Ann Marie Genco:Hello! So, time zone confused. Will this webinar air in approximately 45 minutes?

DONALD VICAREL:i think will start in 39 minutes.

Ann Marie Genco:Great!

Sau Chung:hi

DONALD VICAREL:I think the time on the invitation was ambiguous.

DONALD VICAREL:Hi, Sau Chung

Sau Chung:good morning from Malaysia

DONALD VICAREL:Good evening from Cleveland Ohio, USA

Melissa Kings:Hello from Little Rock, Arkansas. I have performed the audio setup but I do not hear any music. Help?

Andrea Dandola-DePaolo:Hi from New Jersey, the garden state

DONALD VICAREL:Melissa, did you check the audio controls on your computer keyboard?

Megan Clune :Good morning from New Zealand.... no music hear yet either

DONALD VICAREL:I'm hearing music, no problem.

Melissa Kings:Audio controls are fine. Now I can hear the music. It was very faint so I did need to turn up the volume. Thankyou.

Lydia Oladosu:hello from Canada

CHONDA LONG:We just started the music

Michelle Masi-Lerner:Hello from New Jersey

Megan Clune :Yep, music is working here too :)

DONALD VICAREL:I am retired teacher but I math-tutor USA grade 4 children.

Jamesha Thomas:Hello, from North Carolina

Shanna Gagnon:Hello from Alberta, Canada

Sylvie Labrèche:bonsoir from L'Orignal Canada :)

Beulah jonnalagadda:Hello from North Carolina.

Calista Jesuthasan:Hello from Brisbane, Australia!

Janeth Lopez Arriola:Hello from Fort Worth, Texas!

Troy Angell:Hello from Lawton Oklahoma

Sandi Cooper:Greetings from Waco, Texas! I heard music, but now has stopped.

angela colvin:Hello from Tyrone Gerogia!

CHONDA LONG>Welcome everyone! We are glad you are here. We will begin in about 13 minutes

Vannie Monroe:Good evening from Katy, TX.
Ashlynn Anderson:Good evening from Ogden, Utah!
Dara Gomez:Hello from Oregon!
Carla Harper :Hello, from Chicago, Illinois.
Michelle Hale:Hi from Chicago, Illinois
Andy Knef:Halo aus Deutschland
Barb Borgwardt:Hello from Wisconsin!
Diana King:Howdy from Missouri!
Janet Koza:Hello from Massachusetts!
Alan Laroche:Hi from Massachusetts
Darius Robinson:Hi from North Carolina
matt larson:Just lost my presenters' window ...
Fran Tishkevich:Hello from Cape Cod
Elizabeth Bumpus:Hello from Texas
Tim Stranz:Hello, from Missouri
Sharon Zintel:Hello my fellow math nerds from Canada!
Chris Garrigues:Chris from Oregon
Catharine Rayner:Good evening from Ocean City, MD
huaijun li:hello, I am from china,I just hear the music
Clara George:Greetings from Shawnee KS
Kate Rossignuolo:Good evening from PA
Kim McComas:Hi from Fayetteville, AR - nice music!
Heather Evans:Heather Evans Hello from New hampshire
Karen Hazlewood:Hello from California
Erin Sniatecki:Hi from North Georgia
Emilee Segreaves:Hi from New Jersey!
Sinem Sözen:Hello from Ankara, Turkey
Rhiana Maidenberg:hi from san francisco
Susan Vanderwerken:Hello, I'm from Orlando, FL
Denise Rawding:Hello feom New Jersey
Melissa Norton:Hello from Fayetteville, Arkansas!
CHONDA LONG:We will begin in 2 minutes
Tim Stranz:I'm glad this is at 7 eastern, that way I won't miss Big Brother
Asli Mutlu:Hi everyone! This is Asli Mutlu from North Carolina , Raleigh :-)
Patricia Rogers:Cheers from California!
Christina Phillips:Hello from mid-Georgia.
Marisa Kobara:Hello from São Paulo, Brazil!
Geraldine Gaudet:Hello from Louisiana
Asli Mutlu:Hi Sinem ! That must be very late in Turkey

Robin Galeaz:Hello from New Hampshire
Brenna Saxton:Brenna from Missoula, MT
Donna Trapani:Hi from Long Island NY
Lu Sun:Hi, Sela from China
Yvonne Recio:Hello, Yvonne from Texas
Sinem Sözen:Hi Aslı, Actually it is :)
John Christiansen:Hell Everyone. I'm John from NY.
Susan Vanderwerken:yes
Michelle Hale:yes
Andy Knef:yes
Yvonne Recio:yes
Annie Wallace:Hello -- annie wallace from NH
Lane Walker:I'm from STL
Brittany Alexander:Hello from Texas!
Jan Wickboldt:Hi from Wisconsin!
Brenna Saxton:I'm getting some echo from the audio.
Andrea Rubin:Hello, Andrea from Tennessee
Carol Fry Bohlin:Hello from Fresno, California!
Ashley Barnes:Hi from Spartanburg, South Carolina
Sarah Larsen:Hello from Fort Myers, Florida!
Sunita Viswanath:Hello from NJ :)
Carol Fry Bohlin:(Hi Ashley--I grew up in Spartanburg :-)
Mary Hughes-Donahue:hi
Geraldine Gaudet:Special Ed 1st -5th
Pam Stidham:Hello, this from Tennessee
Shawna Wright:I'm in Montana
Courtney Baker:Hello from Virginia!
Roberta Kightlinger:Minnesota!
Kerim Yildiz:hello
Andy Knef:Where are you Matt?
Mary Hughes-Donahue:I'm from CT.
Michelle Dusek:Michelle Dusek Hello from Royse City, TX!!
Terrie Galanti:Greetings from Virginia
Gayathri Ramkumar:Hi from Kansas
Kathy Simms:Matt is hard to hear
Gayle & Scirocco:Hi From NJ
Kristin Keith:turn your volume up :)
Jena Stucky:Jena Stucky: Here
Dianne Marquart:hello from Missouri

Elizabeth Ball:Hello from Glenview IL

Susan Raines:Hello from Augusta , GA

Andy Knef:You are welcome Matt!

Sally Mejia:Aloha from Hawaii

Michelle Dusek:Aloha!

Catharine Rayner:I can't hear anything, and my volume is up to the max, and heard music at the start of the webinar

CHONDA LONG:try to run the audio wizard

DONALD VICAREL:Catharine, can you see the video ok?

CHONDA LONG:Do you mean the Power Point? There is no video,just a PowerPoint presentation

DONALD VICAREL:right

Catharine Rayner:the audio test worked, but can not hear audio from the webinar. I can see the powerpoint

Debra Kessler:I can not hear the presentation

Noleine Fitzallen:G'Day. Hello from Hobart, Tasmania, Australia

CHONDA LONG:Try to log off and log back on

CHONDA LONG:if you can't hear the audio

Melissa Kings:It was very quiet on my computer, I had to turn the volume up all the way.

DONALD VICAREL:Most terms too vague to measure. We need clear and distinct definitions

Donella Sherry:Volume worked better with my headphones.

Fran Tishkevich:I agree with Donald, the terms are very vague, and therefore difficult to measure.

Heather Evans:Agreed

DONALD VICAREL:You don't need "deep understanding" of math to do engineering tasks.

Melissa Kings:How do we maintain the mathematic understandings in the midst of STEM "projects?"

DONALD VICAREL:Melissa, yes. That seems to be a big part of the issue.

Heather Evans:All good points (in presentation)

Tim Stranz:I'm going to be a 1st year teacher, this is all going right over my head

DONALD VICAREL:So how can we develop conceptual knowledge withing the activities of robotics?

Keri Wright:Hello from Saint George, Utah

Melissa Kings:YES! What is the example? I am hanging on every word...

Fran Tishkevich:I need an algebra program that uses STEM applications to teach conceptual understanding

Troy Angell:I like Fran's statement

Brittany Alexander:Definitely to empower students!

Sunita Viswanath:@Tim, I'm going to be first year teacher too! Read through NCTM Principles, lot of these terminology makes sense

DONALD VICAREL:I think that's the challenge: To use STEM activities as an introduction or a bridge to mathematical understanding.

Fran Tishkevich:Data drawn from current real life applications provides a rich source for very interesting algebra problems

Heather Evans:Fran, surely students need to understand concepts before they can apply them?

Mary Herbst:Howdy fro Mobile, Alabama

DONALD VICAREL:Heather, I respectfully disagree. You can mindlessly apply formulas to obtain results.

Fran Tishkevich:yes, I agree, students need the skills first, They need to understand how to do math. Then they can use it in real world applications. I FULLY believe that knowing basic skills to automaticity is essential before doing the fun stuff.

Sarah Larsen:@Tim I am also a 1st year teacher!

Brittany Alexander:There is such a need in schools with minority students!

Heather Evans:But, Donald, you need to practice formulas before you can see how they can be used in a practical situation.

Gayle & Scirocco:I think it is a balance of both. Trial and error can lead to conceptual understanding and therefore application.

Heather Evans:Agreed Fran!

Heather Evans:Although I think that students can have fun, and be proud in, becoming proficient in basic skills as well.

Tim Stranz:I thought this was going to be more suggestions on strategies to use in the classroom

Roberta Kightlinger:I'm in elementary. There are so many real world applications of mathematics that can be done in order for students to understand our formulas and basic math skills.

Fran Tishkevich:I'm concerned that trial and error can lead to developing "rules" or "understanding" that does NOT stand across all math.

Philomina Harshaw-King:finally someone will speak the truth!

Sunita Viswanath:Yes, when students mindlessly apply formulas without knowing or understanding "why", they don't retain any learning. It will be lost by the term they move to next semester or year

DONALD VICAREL:Heather, unfortunately for us, rote works (at least up to a point).

Theresa Clayton : "Fun stuff" captures the attention of students who are not comfortable with math.

Ashlynn Anderson:I agree! I plan on using similar tasks, just at different levels, for both my regular and honors math courses.

Robin Galeaz:How do you fight the push for leveling from parents? I do not want to level, but I am forced to.

Jacinda Paice:Surely though if we give the students a purpose to learning and then give them a problem that they need to know math concepts so they are more enthused to engage in learning.

DONALD VICAREL:Theresa, I agreee.

Heather Evans:If students are able to move between tracks (as they demonstrate proficiency) it can work. I have seen it done at an international school I taught at in Portugal.

Keri Wright:I teach middle school and have found that recognizing patterns can lead students to "discover" what have before been memorized formulas and algorithms.

Denise Rawding:The three track system is still alive in my school district beginning in first grade. So sad!

Chris Garrigues:if they're just doing formulas or computations, they're not doing math... they're doing formulas and computations.

Fran Tishkevich:Chris, YES YES YES

Annie Wallace:seeing patterns and relationships is important.... it helps to build an understanding and to see how the process skills develop/work.

Jacinda Paice:I totally agree with Keri, the more we have the tracking or assigned classes that is tracking in a hidden way and who is to see if we have equal outcomes

Janel Smith:Fran, if students find patterns that are incorrect or determine rules that are not correct then they need more exploration and pattern work to test their findings. It is the job of the teacher to identify misconceptions and create a new situation to address that

DONALD VICAREL:I agree chris. The prob is that computation and formulas DO yield results. and the temptation is to view them as working activities.

Keri Wright:Chris - I am in total agreement. We need to teach to a greater depth and rigor.

Janel Smith:Donald, what results are you speaking of?

Chris Garrigues:what kind of results.... i can already buy a calculator at Walgreens

Jacinda Paice:We can keep students busy by applying formulas but what are they learning for 21st century skills?

Carol Danchise:Carol Danchise I agree.

Phyllis Meade:@Keri If students "discover" the answer they are more apt to remember how to problem solve not just use a formula.

DONALD VICAREL:You can get the robot to function without knowing why, and then you decide that you know how robotics works.

Tim Stranz:I'm so lost, this is not what I thought it was going to be.

Keri Wright:One of the best books I have read is Jo Boaler's "Mathematical Mindsets" based on Carol Dweck's "Mindset"

DONALD VICAREL:That, jacinda is what I

DONALD VICAREL:was trying to say

Fran Tishkevich:You can get the calculator to find the answer without knowing why. And then you decide that you know how math works.

Janel Smith:Keri, I agree. I am almost done.

DONALD VICAREL:fran: thank you!

Janel Smith:Tim, read the book that Keri posted.

Mary Herbst:Keri - I'm reading that right now, I agree

Tim Stranz:I have it, great book!

Irma Aliaj:Theresa i agree. with you too. Students are more eager to learn when material is presented as "fun stuff"

Robin Galeaz:reading the book as a bookstudy this summer.

Jacinda Paice:I am doing the online course of Jo Boaler about mathematical mindsets and it is blowing my mind to the type of tasks that can be used.

Sara Good:Fran T. mentioned needing to secure basic skills before the fun stuff. I believe meaningful math instruction involves making basic skills (i.e. a balance conceptual understanding of procedural fluency) the fun stuff!

Tim Stranz:How do I sign up for the Jo Boaler class?

Megan Clune :Wome would say that mathematics education underpins everything else... Dr Alan Finkel recently suggested that the acronym be changed to MSET to reflect this!

Kate Rossignuolo:Jacinda, I wanted to take that online class so it is worth it?

Donella Sherry:Matt, amen to everything you have been saying. Was just waiting for someone to address this. Thank you!

Heather Evans:Why don't we recognize that every child needs a meaningful lesson for them and that since every child has a different mathematical skill set, this cannot be achieved in a mixed-ability classroom?

Michelle Masi-Lerner:Great book! It was selected book for a book study from my math supervisor

Lane Walker:I think many math teachers are unaware of many of the new careers: digital signal processing, queuing analysis, technical writing,...so it would make sense if they might be unable to connect the related mathematical thought processes with their students

Mary Hughes-Donahue:I think I will read that book. I need all the help I can get to teach math. I am in my second year of teaching 5th grade.

Mary Hughes-Donahue:6th grade...

Melissa Kings:My question is- if the science teacher would like to do a "project" and the students are now where ready to learn the mathematical concept that goes along with the STEM project?

Brittany Alexander:Q: How do you ensure preparedness of students for higher level mathematics without tracking and/or programs that align with a progression that allows us to set our students up for success?

John Ford:Does NCTM have a position on the standards for math teacher preparation programs to prevent "teacher tracking" for early career teachers in low sections?

Jacinda Paice:Yep the course is good as all teaching is a journey so when we give algebra tasks can get students to learn deep understanding.

DONALD VICAREL:No, but the S.O.S. WILL get their attention.

Asli Mutlu:Do we have teachers' programs which will prepare STEM teachers? What do science teachers will say if we claim that our math teachers programs are already ready teachers

Keri Wright:Our school was recently designated as a STEM school. The transition to STEM (and STEAM) is vital to the real life application of mathematics. That being said, how would you suggest this transformation be effective when there may be instructors/ administrators and/or board members stuck in the past?

Fran Tishkevich:Brittany, I teach in higher ed. Far too many students are not prepared for freshman Algebra/Trig (AKA Algebra 2 when I was in school). Yet, they arrive with a 4.0 high school GPA (and low SAT Math scores). The school and the state says they are great at math.

Chris Garrigues:robotics is good for the concept of function rules/ inputs/ outputs

Sara Good:The eight Standards for Mathematical Practice and NCTM's Math Teaching Practices is our design book for teaching mathematics, STEM or no labeled STEM program.

Kelly Robinson:Start with the mathematics and find a project or grand challenge that will lead students to NEED to use the mathematics. This works really well when you look outside your classroom and find other teachers interested in working with you, the math teacher, to develop a holistic view of the mathematics rather than the isolated formulas and procedures that students have come to know as math.

Janel Smith:Asli, I encourage you to engage the math and science teachers to map the SMPs and SEPs. I did this with a group of 40 teachers and they found the common language and connections for the practices in both areas

Kathy Simms:It seems that having the Mathematics standards line up to the Science standards would be helpful. I have yet to see a document like this...unless I just haven't found it yet.

Sara Good:Good advice, Kelly R.

Sunita Viswanath:How exactly do you accommodate this extra learning time in an inclusive classroom?

Keri Wright:I am seeking problem solving situations that requires the students to make that connection in the process of determining the solution.

Kelly Robinson:Kathy Simms -- YES! And it doesn't exist!

Kathy Simms:Kelly - let's get together and create it!! We all need it!! :)

Brenna Saxton:I look forward to using what you come up with!

Kelly Robinson:You are on, Kathy!!! Totally in!

Linda Borhardt:"Putting students in a low group" - does that also include students placed in tier 2/tier 3 instruction for RTI (Response to Intervention)?

Sau Chung:that's what I am looking for too.

Asli Mutlu:A science teacher or a math teacher designs her/his instructional activities according to real life applications or with modeling problems and incorporating technology while they are teaching, then they are STEAM teacher?

Jacinda Paice:collaboratively discussing the learning objectives is imperative as we all are teachers with skills and then the impact of what is happening in classes will take time.

Chris Garrigues:Matt - on collaboration... how does the lone math teacher (where she is the math department... rural and/or small schools) do effective collaboration/PD?

Sara Good:Keri, I like using the strategy of leveled questions to stimulate student curiosity, enhance formative assessment and open doors to meaningful investigations.

Brenna Saxton:RTI is different than tracking, although there may be some overlap in students

Sau Chung:i wish there are more projects that can connect the STEM

Monika Verma:I agree with you Sau

Alan Laroche:What design principles would you include to ensure that an effective STEM (science, technology, engineering, and mathematics) program builds mathematics understanding?

Jacinda Paice:Finding the resources can take a huge amount of time for STEM projects

Sara Good:What grades(s) do you teach, Kathy Simms and Kelly Robinson?

Melissa Kings:With STEM, it seems a lot of emphasis is on analyzing data during/after the project is underway. If a STEM project- i.e.- the science portion- does not yield data that will allow for finding the math concepts/skills needed to teach, what I've done is just make up data that was ideal to teach the concept. Is this a good approach? Or should we go through with the data that doesn't "work" for our math lesson?

Kathy Simms:6th Grade Math

Brittany Alexander:@Fran: I have also seen much of the same, as well as students requesting to be in some course such as AP Calculus without Alg 2 or PreCalculus as a prerequisite. I do not support tracking, I am just wondering if there is any other solution that can be systematically implemented the way that tracking is in order to address the issues of adequate foundational knowledge and skills that students should have to advance in STEM.

Keri Wright:Utah has a STEM endorsement that addresses the subject matter, but not as much the integration of those subjects.

Gayle & Scirocco:we are trying Blended Learning this year in an attempt to reach more students

Sau Chung:I wish we have more time to collaborate with the other STEM teachers to create the integrated projects

Kelly Robinson:Sau & Monika -- YES! We do need projects however, sitting back and waiting for someone to do that for you may not give you what you can really use. How do you overcome that? We should work together to come up with these so they are easily modified to be customized for you and your students!

Melissa Kings:@Sau that is so true! Time needed to collaborate is SO important.

Sara Good:Thanks, Kathy. I've been a district math coach for many years, and will now teach grade 5 STEM for the first time next year in Ohio. I also would appreciate an alignment of math and science standards.

Kelly Robinson:Sara Good -- I teach high school math

Shawna Wright:Our STEM teachers are very disconnected from the math and science teachers. They have all the cool toys too.

Keri Wright:Melissa - the gathering of data and its analysis and application -- regardless of the data gathered -- applies directly to a number of the statistics and probability standards.

Monika Verma:We have 2 STEM kits for our Grade 1 students (3 Little Pigs and the Big Bad Wolf, 3 Billy Goats Gruff)

Erin Sniatecki:Talking about mathematics at all levels creates opportunities for student learning. We should challenge ourselves to facilitate mathematical conversations. We can model this as teachers and seek to engage students .

Michelle Masi-Lerner:My school had a middle school stem program and this is the last year of it. It is being phased out due to not enough planning time built into teacher's schedules.

Sara Good:Thanks, Kelly. From k-12 coach to grade 5 STEM here

Alan Laroche:What design principles would you include to ensure that an effective STEM (science, technology, engineering, and mathematics) program builds mathematics understanding?

Kathy Simms:Kelly and Sara - ksimms@ipsk12.net, email me! :)

Kelly Robinson:Sara, good luck. That is not going to be an easy transition! Teaching STEM well is a whole different beast!

Sara Good:What resource can we find to align CCSSM and state science standards for each grade?

Keri Wright:Michelle - That is so sad. The amount of time to add a word problem that incorporates that balancing of equations for chemistry can be a start.

Jacinda Paice:I think to phase out a project is short term looking as the more we can collaborate the better we have for the equitable outcomes.

Bayard Lyons:My experience is that STEM in middle grades is engineering lite. You do some science projects as well but far less emphasis seems to be given to math. Is this other' experience?

Janel Smith:Kelly and Sara - I'd like to help janel.smith@armstrong.edu

Ashley Barnes:What would be your advice to a math and science coach in trying to help the elementary teachers implement stem practices?

Lane Walker:I have developed some STEM integration for Algebra here <https://lanewalker2013.wordpress.com/category/stem-in-algebra/>

Michelle Masi-Lerner:yes, I agree Keri. I am both a math & science teacher so I try my best to integrate both in each class

Annie Wallace:Saara -- I find focusing on the math and science practices first helps... can design an experiment and how one can collect the data to see if supports or not the students conjectures is a good start

Sara Good:Feel free to email me at goods@parmacityschools.org!

Fran Tishkevich:Yes, they need a DEEP understanding of math. No longer is a mile wide and an inch deep the way to go.

Keri Wright:Lane - Thank you for the link. I am looking forward to "stealing" anything that will help. :)

Sara Good:Thanks, Annie. Sound advice!

DONALD VICAREL:Do we have a library of STEM activities that promote math concepts building?

Kelly Robinson:Great question, Donald V!

Jacinda Paice:That would certainly be useful Donald

Sara Good:I'm excited about using backward design to craft meaningful learning. STEM seems like the perfect setting.

Kathy Simms:Yes, great question Donald

Monika Verma:Thank you Lane, for the link!

Noleine Fitzallen:Do you think that the lack of focus on mathematics in STEM activities is due to lack of mathematical understanding of some teachers?

Fran Tishkevich:TI has alot of awesome resources for STEM activities.

DONALD VICAREL:Is there some way that we here could set something up?

Sara Good:Good question, Donald V.

Janel Smith:Noleine - yes or not knowing the science or technology enough to plan i

Janel Smith:it

Rhiana Maidenberg:Many of the the activities in Illuminations are very good for cross curricular exploration!

Kelly Robinson:Noleine -- YES!!!! The research suggests that is most definitely the case!

Fran Tishkevich:Noleine, absolutely yes.

Keri Wright:Rhiana - so true. What a great resource.

Lane Walker:More on CCSS STEM in algebra here: <http://achievethecore.org/aligned/8-questions-about-high-school-math-and-stem/>

Noleine Fitzallen:The push to do STEM is probably exacerbating the problem with lack of mathematical knowledge.

Michelle Dusek:Thanks!

DONALD VICAREL:Can NCTM set up a system where we could upload links?

Andrea Rubin:Thanks

Erin Sniatecki:Thank you.

Sau Chung:thanks bye

Sunita Viswanath:Thanks for the links, will check them out

Elizabeth Ball:Thank you!

Tom Galloway:Thanks

Keri Wright:Thank you

Yvonne Recio:Thanks

Teresa Panagos:Thanks

Ashlynn Anderson:Thanks!!!