



AN SCIC BREAKROOM: WOMEN IN STEM

00:32:21 Scott Kiessig - ScIC | PocketLab: Welcome, everyone! Let's see who is in the chat with us. Tell everyone where you are in the world, your job title, what school you are with, and which science discipline you teach.

00:32:48 Jean Lopez F.: Jean from Mexico City. HI.

00:32:58 Carlos Villa: Hey everyone, I'm Carlos R. Villa from the National Magnet Lab in Tallahassee, Florida.

00:32:59 Scott Kiessig - ScIC | PocketLab: Please make sure to set your chat setting to "everyone" or "panelists and attendees" so everyone can see your comments and questions.

00:33:01 Jolie Pelds: Greetings from the Science Center of Iowa. Jolie Pelds Director of Innovative STEM Teaching

00:33:01 Victor Afigbo: Victor from Moscow, Idaho

00:33:06 Elizabeth Petersen: Elizabeth Petersen, St. Louis, MO I am a STEM Facilitator who works with Washington University in St. Louis.

00:33:07 Cindi Schulze: Hello from San Diego

00:33:10 Heather Voss: Oklahoma City

00:33:14 Andrea Thompson: Wasilla, Alaska - Chem, APES, Biology

00:33:15 Phattaraporn Pondee: Hi everyone from Thailand

00:33:18 Angelli Krizka Bingcang: Mabuhay Philippines!

00:33:18 Mary Ford - National Geographic Society: Welcome everyone! Hi from Washington DC

00:33:20 Ana Lucía Rendón Cantillano: Hello; thanks! Ana Lucía from Tegucigalpa, Honduras

00:33:20 Kathryn Montes: Kathryn from New York City

00:33:21 TRACY FRANKLIN: Tracy Franklin- DeKalb County School District (Covington, Georgia) STEM Lab

00:33:24 Betty Graydon: Florida

00:33:26 Martina Bachlechner: Hello from West Virginia! I am the STREAM Coordinator at Pierpont Community & Technical College. Martina

00:33:28 Susan Bardenhagen: Northern Virginia, originally NY

00:33:30 Brandy Proffitt: Hello from the middle of Kansas!

00:33:33 Liliana Lemanowicz: Good afternoon! Student teacher from New Jersey here, studying physics!

00:33:42 SHANNON BABB: Shannon Babb from Central Utah Water Conservancy District based out of Orem, Utah

00:33:43 Emily Browning: Hi from Juneau Alaska!

00:33:44 Wenonah Vercoutere: Hello from San Jose, Ca!

00:33:48 Wilder Pirtle: Hi from Carthage, Mississippi!

00:33:51 Scott Kiessig - ScIC | PocketLab: The next Science is Cool Unconference is happening October 28th. Ira Flatow, Chris Rush, OpenSciEd, Wow in the World, and more will be there! Sign up for ScIC7 at <https://www.thepocketlab.com/scic7>

00:33:55 Elena Zárate: Hello from El Salvador

00:34:02 Mary Montag: Hello from Kansas City MO

00:34:26 Scott Kiessig - ScIC | PocketLab: Please make sure to set your chat setting to "everyone" or "panelists and attendees" so everyone can see your comments and questions.

00:34:33 DORA CONCEPCION CALVO GASTAÑADUY: Hello everybody! Greetings from Peru!! 🇵🇪 🇵🇪

00:34:48 Scott Kiessig - ScIC | PocketLab: Sign up for ScIC7 at <https://www.thepocketlab.com/scic7>

00:34:57 Jennifer Piasecki: Hello from Winnipeg

00:35:00 Mary Ford - National Geographic Society: Great to see people here from Central and South America!

00:35:06 FABIÁN GARCÍA SARASTY: Hello from Cali, Colombia

00:35:13 Monica Nichols: Hi, Monica from Dumfries, VA. Our nonprofit is called Pink Space Theory.

00:35:19 Abdalla Darwish: Hello everyone! This Dr. Darwish from Dillard University, New Orleans, LA just recovered from two hurricanes adarwish@dillard.edu.

00:35:19 Stacey Reed: Hello from Baltimore, MD!

00:35:20 Diane Phillips: Hello from Canada looking forward to hearing Liz and more about Donors Choose. Always a great line up!

00:35:24 Wendy Agnew: Hello from Brisbane, Australia!

00:35:29 Deb Hanson: Hi, Deb Hanson from Iowa

00:36:09 GALYNA PETRYK: Congratulations to all from Kyiv, Ukraine. Galyna Petryk /Academy of Modern Education

00:36:31 Mary Ford - National Geographic Society: Welcome Australia, welcome Ukraine!

00:36:36 Georgina Carbajal De la Torre: Hello, from Mexico

00:36:50 Mary Ford - National Geographic Society: Welcome Mexico!!

00:37:00 Dave Bakker - ScIC | PocketLab: Welcome everyone!!!

00:37:09 Dave Bakker - ScIC | PocketLab: I'm in San Jose, CA by the way

00:37:27 Sarah Woods: I love the connection from arts to engineering!!

00:37:52 Scott Kiessig - ScIC | PocketLab: WoW! So many folks from all over the world! Welcome everyone!

00:38:05 Methma Muthumini: Hello, from Sri Lanka

00:38:14 Morgen ten Hoopen: Stanwood Washington!

00:38:29 Morgen ten Hoopen: Sorry, Stanwood Washington, USA!

00:38:48 Allegra Robertshaw: Hello also from San Jose, CA!

00:39:04 Scott Kiessig - ScIC | PocketLab: Please make sure to set your chat setting to "everyone" or "panelists and attendees" so everyone can see your comments and questions.

00:39:12 Dave Bakker - ScIC | PocketLab: Hi Allegra!

00:39:29 Carlos Villa: We are all born scientists, asking questions and exploring the world around us by experimenting.

00:39:31 Scott Kiessig - ScIC | PocketLab: Feel free to drop questions in the chat for these awesome scientists to answer!

00:39:32 Dave Bakker - ScIC | PocketLab: Hello Adballa

00:40:39 Abdalla Darwish: Hello everyone.

00:40:47 Jolie Pelds: I love the use of the words "fascinated by" and "being curious"!!!! So powerful!

00:40:55 Scott Kiessig - ScIC | PocketLab: Hi Jolie!

00:41:06 Dave Bakker - ScIC | PocketLab: Hi Jolie :)

00:42:33 Abdalla Darwish: we are hosting women in physics in Feb 2022 in New Orleans, Please everyone, come and enjoy science in New Orleans

00:43:18 Katlyn LaFranca: Can you link info about that Abdalla?

00:43:54 Scott Kiessig - ScIC | PocketLab: Yes, please share Abdalla

00:44:09 Kathryn Montes: @Abdalla Darwish, I'd love to join

00:46:02 Dr. Liz Warren - International Space Station US Lab: Hello from San Rafael, CA (normally I am in Houston, TX)

00:47:00 Carlos Fernando Reyes Rodríguez: Colombia is here right now thanks for this

00:47:55 Tammie Schrader: @Deanne - YES!!! kids are fabulous engineers!

00:48:20 Sarah Woods: Language is SO powerful!

00:48:23 Jolie Pelds: Using "engineer" as a verb. Love it!

00:49:37 Tammie Schrader: The scene from Apollo 13 - make this fit into that using only these items!

00:50:41 Monica Nichols: Great point Teresa!!

00:51:16 Mary Ford - National Geographic Society: We've funded a couple of Explorers who build toilets! Kids love hearing about those projects.

00:51:28 Maria Dulay: Greetings from Stanford via Boston/Cambridge. I'm Maria Dulay. I have a PhD in Chemistry and I am at Stanford's School of Medicine and the Chem Dept. I am here with my daughter, Alison Mody, who is a 2nd year grad student at Harvard's Chemistry & Chemical Biology Department. So exciting to be listening to such amazing women with my daughter.

00:51:37 Mary Ford - National Geographic Society: (special low water use toilets!)

00:51:47 Scott Kiessig - SciC | PocketLab: Hi Maria! Welcome to you and your daughter!

00:51:49 Carlos Villa: That's awesome Mary, STEM and potty humor, something all kids will understand.

00:52:06 Mary Ford - National Geographic Society: Right Carlos!!

00:52:54 Abdalla Darwish: I love this idea!! you are 100% right!!

00:52:59 Carlos Villa: There's a blurry line between hand-holding and supporting, especially with middle and high school students.

00:53:03 Kathryn Montes: *Question 😊

Thank you to the panel for sharing what got you into Science. However, I am curious...

What KEPT you in Science?

As time went on, as individual and as well as societal issues possibly clashed in your process, what did you do? What helped you hang on?

Anything you would like to share in those regards?

00:53:38 Wendy Agnew: Greetings Maria! I just came from a before school STEM club teaching atomic theory to 8-12 year olds. When I showed the Periodic Table song we chatted about how even though a lot of elements are named after men, more women are needed in chemistry and STEM subjects in general. Great to hear of you and your daughter!

00:53:44 Jolie Pelds: "I'm busy doing space stuff." Love it!! I wish I could say that. :)

00:54:05 Monica Nichols: we are making solar powered boats with a group of middle school girls

00:55:06 Carlos Villa: Wendy, I feel your struggle, I have a hard time finding any scientific measurement unit that isn't named for a dead white man. :(

00:56:34 Esther Johnson: This is SO TRUE! We need to empower elementary teachers to teach science so that students aren't afraid of science when they get to high school/college

00:56:35 Wendy Agnew: It's an issue, Carlos! Most of the students were from non-European backgrounds as well, so it led to a discussion about the value of diverse backgrounds in general, which was perfect.

00:57:34 Abdalla Darwish: This year, we got funded by NASA next Gen for the summer program hosted 55 high schools women from southern US states and they wrote coding for docking station and built rockets !!! it is easy to introduce STEM though hands-on training and let them dicover the theory!!!

00:58:03 Edie Enriquez: Hi, I'm a brand new high school teacher with no science experience except what I've learned from curiosity and watching documentaries. I'm in California and was able to get a credential to teach Science because I was able to pass the CSETs. I'm

struggling with how to teach labs and hands-on since I don't have experience with that. I'm also teaching at a rural school and I am the only Science teacher so I don't have a PLC or other science teachers to help me.

00:58:19 Stephanie Duverge: It's all about students ownership over their learning process. We want to implement STEM, but we need to let them fly solo, not accompany every step.

00:58:23 Zoraida Velasquez: It is an issue at my school. teachers 1st ti 3rd grade do not like to teach science and even ty to avoid teaching it. 😞😞😞

00:59:28 Scott Kiessig - SciC | PocketLab: Drop your comments and questions in the chat for us to discuss live

00:59:31 Carlos Villa: I must be biased, because teaching science id the funnest* thing to do.

00:59:48 Mary Ford - National Geographic Society: Edie, I actually really recommend Twitter as a way to build a PLC with supportive teachers!

00:59:48 Zoraida Velasquez: How can we motivate fellow teachers to "fall in love" with science?!? Motivated teachers make for motivated students.

00:59:54 Tammie Schrader: Amen Carlos - what other class can blow things up on purpose?

00:59:54 Sarah Woods: Do NOT show the newer Bill Nye show! A colleague learned the hard way that it wasn't great for middle schoolers...

01:00:10 Sandra Featherly: hi from Bellevue, was, veterinarian

01:00:18 Cindi Schulze: struggle for primary teachers is that they have pressure to fill the gap with language arts and math. Sometimes science isn't a priority

01:00:20 Carlos Villa: YES TAMMIE! And have permission to fail and try again!

01:00:23 Ingrid Martinez: Our Region 16 Education Support Center in Amarillo, TX had a science collaborative of High, middle, and elementary school teachers who learned together and mentored each other. Our elementary teachers borrowed our equipment to try out. We all learned from each other.

01:00:48 Zoraida Velasquez: absolutely Carlos!!! Science is simply fun!

01:01:37 Sandra Featherly: yay for Wendy and Maria and atomic theory and periodic table songs! I need you guys to teach my 5th grade daughter, too!

01:01:49 Sandra Featherly: yay for girl builders!

01:01:51 Wendy Agnew: Hi Sandra! I'm a veterinarian and part time informal educator about to undertake a Master in Secondary Teaching to change careers to science/STEM teaching.

01:01:54 Mary Ford - National Geographic Society: For Edie and others wanting to build science teaching skills and a professional learning community too, check out our courses for educators. They're all free! <https://www.nationalgeographic.org/education/professional-development/>

01:02:01 Sarah Woods: I think a lot of teachers feel pressured to cover the curriculum and they feel like they don't have time to add anything else. What strategies would you suggest to make both things happen?

01:02:01 Abdalla Darwish: Hello Edie I think I can help you This is Dr. Darwish from Dillard University email me adarwish@dillard.edu I was funded by NSF to train science teachers at New Orleans , La after hurricane Katrina and glad to share the resources with you.

01:02:06 Sharon Lambkin: My third grade kids had an absolute ball trying to work out how to move objects across the classroom when given the materials to make a pulley system. We had lines running everywhere in the classroom and complete engagement from the students!

01:02:17 Carlos Villa: How does the panel feel about STEM toys being made pink to appeal to girls?

01:02:48 Wendy Agnew: Sandra there are SO many resources available at atomicsschool.com They are Australia-based but support teachers introducing atomic theory at the elementary level all around the world.

01:03:02 Cindi Schulze: Agreed. I do so much writing through science!!

01:03:10 Sharon Lambkin: Scientific thinking is the key to coping & creating change as we do life!

01:03:20 Mary Ford - National Geographic Society: Carlos, I think pink is fine, but it belongs to all genders 😊

01:03:46 Carlos Villa: I heard a local school improvement specialist say "Don't teach the nature of science, it's only 15% of the test."

01:03:47 Sandra Featherly: ty Wendy!

01:04:34 Wendy Agnew: Sandra you can email me at wendylagnew@yahoo.com.au if you'd like more info too. I taught it to my own children which led me to teach others.

01:04:35 SHANNON BABB: STEM Storytimes have been so important in getting science into the early grades of the schools I work with. There are some amazing science, technology, engineering, and even Math books out there.

01:04:47 Carlos Villa: Mary, I hear you, my son is a fan of pink and cute. He likes a lot of his sister's toys, and I allow him to play with whatever he chooses to.

01:04:56 Mary Ford - National Geographic Society: Love that Carlos

01:05:23 Carlos Villa: ...even when I step on them in the middle of the night.

01:05:29 Mary Ford - National Geographic Society: lol

01:05:54 Mary Ford - National Geographic Society: and climate change!! WE NEED SCIENCE

01:06:01 Edie Enriquez: ty all who have responded to me with helpful resources :)

01:06:12 TRACY FRANKLIN: I agree all subjects can be taught through Science. We had our first project based learning culmination. It was amazing to

see our students from PK-5th graders enjoyed the activities and being able to discuss their learning with boldness and accuracy.

- 01:06:49 Wendy Agnew: LOVED the teaching global climate change Nat Geo course, Mary Ford! So helpful.
- 01:07:02 Mary Ford - National Geographic Society: SO glad to hear that Wendy!! You made my day!
- 01:07:09 Carlos Villa: Yes Teresa! By missing out on the diversity in STEM we are missing out on great ideas from women and black and brown brains.
- 01:07:34 Scott Kiessig - SciC | PocketLab: You can reach Dr. Liz Warren at <https://twitter.com/spasmunkey>
- 01:07:49 Methma Muthumini: Dr. Liz what is the path to become an astronaut? because it's my biggest dream
- 01:08:47 Scott Kiessig - SciC | PocketLab: Hi Methma- in case Dr Warren doesn't get to your question live...
https://www.nasa.gov/audience/forstudents/postsecondary/features/F_Astronaut_Requirements.html
- 01:09:02 Carlos Villa: Encouraging our young underrepresented scientists is one of the biggest things we can start to do immediately.
- 01:09:10 Stephanie Duverge: Sarah, you could implement cross curriculum activities. depending on the topic on science, it goes from math to social studies, observing and writing their findings is already a language arts connection. It doesn't have to belong to a single subject, but you could dedicate an entire day to a project while developing it through different subjects.
- 01:09:31 Mary Ford - National Geographic Society: Here's one of my very favorite Nat Geo Explorers. She's a carnivore ecologist and also works in STEM equity and justice. <https://twitter.com/RaeWynnGrant>
- 01:09:52 Sandra Featherly: fantastic, Wendy, thx!
- 01:10:18 Sarah Woods: @stephanie - Thanks for that. I teach middle school, where we don't teach all subjects to a class, so it's a bit different. I think high school teachers might feel the same way, too.
- 01:10:33 Mary Ford - National Geographic Society: More info about Dr. Rae Wynn-Grant: <https://www.raewynngrant.com/>
- 01:10:43 Jolie Pelds: Shout out to all the amazing teachers that inspired us and showed us it was okay to love science!!!
- 01:11:03 Scott Kiessig - SciC | PocketLab: Science IS Cool!
- 01:11:07 Mary Ford - National Geographic Society: Science IS cool!!
- 01:11:44 Wendy Agnew: My 10 year old will love Dr Liz's twitter handle! He just participated in the NASA Hackathon this last weekend and is using his free website to make a page called the Space Monkey Project. :)
- 01:11:48 Kathryn Montes: Thank you for that awesome answer Dr. Liz Warren! I will echo that forward.🌟
- 01:11:48 Mary Ford - National Geographic Society: it's great to hear you say that Dr. Liz. I think growth mindset is critical. It's ok to take classes over!

01:11:49 Dave Bakker - SciC | PocketLab: Thanks Zainab, there will be a recording!

01:12:01 TRACY FRANKLIN: Dr. Liz, thank you for sharing that struggling is ok, just keep trying

01:12:37 Stephanie Duverge: @Sarah, I teach High School. my school encourages cross curricular activities, so it is really easy for me. I did one of Biology and P.E. About maintaining homeostasis during exercise.

01:12:40 Tammie Schrader: John Kennedy: "We choose to go to the Moon in this decade and do the other things, not because they are easy, but because they are hard, because that goal will serve to organize and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one which we intend to win, and the others, too."

01:12:40 Sandra Featherly: wow Wendy, great idea to teach, you are amazing!

01:12:59 Sarah Woods: We need to do a better job of encouraging students to take risks and "fail" and then persevere past the hurdles. They aren't learning it, especially the students who are usually the strongest.

01:14:07 Jolie Pelds: How many of us can name that impactful teacher in our lives? We can be "that teacher" for the students that we work with. Be the change you want to see!!

01:14:42 Heather Voss: I have encountered several who tell my own girls that "girls don't do math" or "girls don't do science" starting when my oldest was a 1st grader. However, they are being raised in a STEM house where we do science all the time.

01:15:13 Kathryn Montes: @Jolie, I didn't have any so I became the one I wished I had. Although, maybe Ms. Frizzle counts? 😊

01:15:22 Carlos Villa: Heather, here's a scary thought: I've heard that from scientists. :(

01:16:00 Jolie Pelds: @Kathryn Ms. Frizzle for the win!

01:16:01 Mary Ford - National Geographic Society: I am so sorry to hear that Heather — and I hear it too. I hear TEACHERS say that girls don't like science. We have to actively challenge those statements, I think.

01:16:10 Carlos Villa: I'm with Kathryn on role models.... but mine was Mr. Wizard. lol.

01:16:40 Heather Voss: My husband is an engineer and my background is in nuclear physics (I now teach high school), so we volunteer with our girl scout area troops for any STEM that they want/need help with.

01:16:54 Wilder Pirtle: Amen, Deanne!

01:16:57 Scott Kiessig - SciC | PocketLab: That is awesome Heather

01:17:27 Vanessa Kelly: I hated science until I got into college. It wasn't until I had a boyfriend that told me I was better at Geology than him that I finally started taking it seriously.

01:17:28 Sandra Featherly: yay for building rockets with Dr. Darwish and NASA next gen!

01:18:20 Carlos Villa: Teresa, a lot of it is lack of representation.

01:19:42 Wendy Agnew: NASA staff profiles in their emails showing people of diverse backgrounds in a wide variety of roles has been fantastic.

01:19:44 Sandra Featherly: yes, Sarah woods arts and science are inextricably connected, yay for biomimicry in MT!

01:19:49 Deb Hanson: Schools emphasize reading and math, we keep cutting Science and Social Studies. We do that because that is how we are tested. We test every year for math and reading. We test for Science in 5th and 8th grade. We don't even test for Social Studies. Our government has told us that Science and Social Studies are not important. I tell my students Science and Social Studies are the most important subjects and we reading and math are just the tools we need to do Science and Social Studies.

01:20:12 Sharon Lambkin: That's so true. the hidden curriculum suggests science is for boys

01:20:14 Sarah Woods: Deb, that's a great way to approach it!

01:20:35 Rachel Zimmerman Brachman: My problem with pink LEGO is that it implies that all non-pink LEGO isn't for girls. My brother and I used to play with LEGO together all the time when we were kids.

01:21:18 Rachel Zimmerman Brachman: I was the only female physics student in my undergraduate degree program. There was one, and only one, per year.

01:21:31 Sharon Lambkin: Maybe these toys should have activities like 'build a sewing machine' or 'construct a mix-master' : objects that are more traditionally used by women

01:21:33 Sarah Woods: Awesome!

01:21:35 Scott Kiessig - SciC | PocketLab: Awesome Teresa!

01:21:59 Stephena Edwards: Can you share online sites that are focused on STEM with me please? Most of our schools in Jamaica are mainly online.

01:22:08 Mary Ford - National Geographic Society: Check out Nat Geo's Explorer Classroom, where your kids can connect with Explorers live (also free).
<https://www.nationalgeographic.org/tickets/explorer-classroom/>

01:22:42 Mary Ford - National Geographic Society: Stephena, check out that link I just shared. Connect with Explorers through YouTube!

01:23:00 Vanessa Go: I appreciate the great ideas about materials we could use for STEM projects. I am trying to think of ways to replace straws and cellotape with more sustainable materials. Food items are also sometimes challenging because of allergy issues.

01:23:06 Stephena Edwards: Thank you Mary

01:23:08 Sharon Lambkin: Biology - care of animals & plants- should have a bigger focus in schools

01:23:18 Alisha Flores: Thank you from the last time I did print those posters and put them in my classroom.

01:23:50 Zoraida Velasquez: Teaching at an all girl school in a third world country makes it especially challenging, but I bring "Boys toys" to mu class. we have dinoraurs and minerals and rocket sets and legos....I keep my students surrounded by all sorts of toys that have some science connection. it helps breaking that barrier..

01:24:17 Carlos Villa: STEMing while Black is a great group too

01:24:46 Jolie Pelds: Stories and anecdotes help students connect to STEM careers. What are some great "real life" stories you can share with us that will help girls see themselves in science?

01:24:59 Mary Ford - National Geographic Society: Also check out <https://www.exploringbytheseat.com/>

01:25:14 Brenda Altieri: More representation. Posters on the wall of women in science. The film, Hidden Figures, opened the door for girls of color. We need to find ways to feature works of women scientists.

01:25:25 Sandra Featherly: wow, go allgirl school teachers, Ms. Zoraida!

01:25:26 Carlos Villa: Jolie: Check out Fab Fems too. fabfems.org

01:26:12 Sandra Featherly: is there a link to the last women in stem Scl starter webinar in August?

01:26:39 Scott Kiessig - ScIC | PocketLab: Free Posters Celebrating Women Role Models in Science, Technology, and Math
<https://www.amightygirl.com/blog?p=23086>

01:26:52 Brenda Altieri: Why are female meteorologists have to wear sexy dresses when their male counterparts wear suits?

01:27:21 Scott Kiessig - ScIC | PocketLab: Sandra- are you looking for the scistarter presentation from April or Women in STEM panel from August?

01:27:45 Zoraida Velasquez: I tell them, "when one of you wins a Nobel Prize or gets to Mars, you better thank your Ms. Zoraida 😊"

01:27:49 Mary Ford - National Geographic Society: Here's the other program I mentioned, Skype a Scientist <https://www.skypeascientist.com/>

01:28:19 Peter Baker: Hate to sound to full of myself but STEM education is ok BUT only includes 15% of people. Looking at STEAM education includes 85%! Science, Technology, Engineering, Arts & Math! AS many inventors through the past were both tech people with an art side.

01:28:19 Wendy Agnew: Citizen Science projects! Get student involved contributing to real science straight away.

01:28:20 Sandra Featherly: women in stem from august

01:28:24 Mary Ford - National Geographic Society: provide great free science PD for teachers

01:28:24 Carlos Villa: Thanks so much Mary, I'll be reaching out to you for help in finding role models for my SciGirls Summer Camp

01:28:39 Mary Ford - National Geographic Society: yay Carlos!

01:28:45 Scott Kiessig - ScIC | PocketLab: Sandra- <https://www.thepocketlab.com/scic6-summit-women-in-stem>

01:28:47 Rachel Zimmerman Brachman: NASA has free STEM and STEAM lesson plans, here: <https://www.jpl.nasa.gov/edu/teach/>

01:29:05 Mary Ford - National Geographic Society: find me on Twitter at @maryeford

01:29:21 Stephanie Duverge: I did the Citizen Science, I loved it!

01:29:37 Mary Ford - National Geographic Society: YAY citizen science!

01:29:38 Scott Kiessig - ScIC | PocketLab: You can reach Mary Ford at <https://twitter.com/maryeford>

01:30:09 Scott Kiessig - ScIC | PocketLab: Space Station Explorers: <https://www.issnationallab.org/stem/>

01:30:28 Sharon Lambkin: I wonder if girls walk away from science because of the moral/ethical issues that also surround it e.g is it right to bisect an animal or should that animal have been left to live. I remember that being an issue decades ago when I was in high school. just wondering if that still applies to today's generation?!? I wonder if this was part of the response of Dr liz Warren's school peers?

01:30:40 Rachel Zimmerman Brachman: <https://science.nasa.gov/citizenscience>

01:30:44 Scott Kiessig - ScIC | PocketLab: NASA STEM resources: <https://www.nasa.gov/stem>

01:30:47 Peter Baker: additionally as was said the "hiker sees the mountain clearest from the distance"

01:30:49 Carlos Villa: YES! Scientists love having their hypothesis being wrong, cause then they have an unexpected result they have to explain!

01:30:59 Mary Ford - National Geographic Society: you can find all the Nat Geo programs I mentioned, and 5000 educational resources like videos and lesson plans, at NatGeoEd.org

01:31:02 Mary Ford - National Geographic Society: all free!

01:31:22 Stephen Edwards: Thank you Dr. Liz!

01:31:25 Tauheedah Abdulkarim: It would be nice if the administrators would develop and implement a Science Awareness professional development training for all elementary teaching staff and assist the staff in implementing fun and exciting weekly science activities. Teaching staff should also have ongoing time to discuss and plan their weekly activities. We can do this!!!!!!

01:31:25 Stephanie Duverge: And also got halfway through Teaching Environmental Science, but got sick and missed the last few deadlines

01:31:31 Scott Kiessig - ScIC | PocketLab: Learn more and sign up for NASATechRise at <https://www.futureengineers.org/nasatechrise>

01:31:43 Peter Baker: And unfortunately many of our teachers don't look outside the box.

01:31:49 Dr. Liz Warren - International Space Station US Lab: Reach me on Twitter: @spasmunkey

01:31:51 Sarah Woods: I'm wondering how many people didn't sign up for this, for exactly the reasons we've been talking about. If they're

uncomfortable, maybe they won't participate in this type of thing. Just a thought.

01:32:01 Dr. Liz Warren - International Space Station US Lab: Or on email: lwarren@issnationallab.org

01:32:03 Scott Kiessig - SciC | PocketLab: 57 teams will be awarded \$1500 to build your experiment! Learn more and sign up for NASATechRise at <https://www.futureengineers.org/nasatechrise>

01:32:15 Mary Ford - National Geographic Society: I hear you Sarah... we all need to spread the word as far as possible

01:32:49 Tauheedah Abdulkarim: Thank you for the encouragement of being "different" and helping us leave the box of status quo. It feels good to use our brains and not just our bodies to accomplish a goal.

01:33:07 Wilder Pirtle: Thank you, guys, for the links!

01:33:14 Peter Baker: And as a member of MENSA I have been around a bit so open up. Second time I was in China when they found out who I was they started bowing down to me!

01:33:19 Scott Kiessig - SciC | PocketLab: You can reach the SciC team at contact@thepocketlab.com

You can reach Dr. Liz Warren at <https://twitter.com/spasmunkey>

You can reach Mary Ford at <https://twitter.com/maryeford>

You can reach Deanne Bell at support@futureengineers.org

01:33:30 Esther Johnson: Seriously, thank you all!

01:33:34 Scott Kiessig - SciC | PocketLab: Access great resources here from National Geographic for teachers wanting to build science teaching skills and a professional learning community too, check out our courses for educators. They're all free!
<https://www.nationalgeographic.org/education/professional-development/>

Check out Nat Geo's Explorer Classroom, where your kids can connect with Explorers live (also free).

<https://www.nationalgeographic.org/tickets/explorer-classroom/>

01:33:46 Tammie Schrader: Fabulous panel. Amazing. Thank you so much.

01:33:47 BERI NDI: Thank you

01:33:48 Vanessa Go: My students have been loving MapMaker on Nat Geo

01:33:52 Jolie Pelds: @Mary Thanks for posting all the resources!! Very helpful.

01:33:55 Scott Kiessig - SciC | PocketLab: 57 teams will be awarded \$1500 to build your experiment! Learn more and sign up for NASATechRise at <https://www.futureengineers.org/nasatechrise>

01:34:06 Kathryn Montes: Brilliant panel. Thank you!

01:34:14 Mary Ford - National Geographic Society: Glad you found MapMaker Vanessa!

01:34:14 DORA CONCEPCION CALVO GASTAÑADUY: INTERESTING!

01:34:19 Marilyn St Pierre: Thank you all so very much!

01:34:21 Wendy Agnew: Will this text dialogue be preserved as part of the recording as well? Trying to keep up with all the links! :)

01:34:43 Scott Kiessig - ScIC | PocketLab: Wendy- please email me and I will send to you contact@thepocketlab.com

01:34:49 Methma Muthumini: I'm so grateful and thank you so much 😊

01:35:02 Angelli Krizka Bingcang: These women are very inspiring!!!Thank you!!

01:35:04 Stephanie Duverge: Thank you for being in the topic up!

01:35:15 Sarah Woods: Is this recording going to be available to share with other teachers?

01:35:23 Stephanie Duverge: *bringing this topic up

01:35:27 Alicia Jackson: Thank you!!!

01:35:31 Mary Montag: What a wonderful hour! Thank you

01:35:31 Wendy Agnew: Thank you so much for all the panelists and organizing this!!!!

01:35:34 Scott Kiessig - ScIC | PocketLab: Sarah- email me at contact@thepocketlab.com and I will make sure you get a link

01:35:37 Mary Ford - National Geographic Society: Here's the MapMaker tool that Vanessa mentioned: <https://mapmaker.nationalgeographic.org/>

01:35:38 Martina Bachlechner: Thanks so much, Ladies!

01:35:39 Jolie Pelds: Thank you for being amazing women in STEM role models!!!

01:35:44 Sarah Woods: Thanks Scott!

01:35:46 Scott Kiessig - ScIC | PocketLab: The next Science is Cool Unconference is happening October 28th. Ira Flatow, Chris Rush, OpenSciEd, Wow in the World, and more will be there! Sign up for ScIC7 at <https://www.thepocketlab.com/scic7>

01:35:50 Orla OCallaghan: Thank you all!

01:35:56 TRACY FRANKLIN: Thank you so much for the informative conversation

01:36:00 Vanessa Go: Thank you so much!

01:36:02 Grecia Alvarado: Thank you

01:36:12 Wilder Pirtle:Thank you all! So cool!

01:36:24 Phattaraporn Pondee: Thank you so much ^^

01:36:24 Zoraida Velasquez: Thank you!!! It was great !!!

01:36:27 Peter Baker: Also IoTFuse!

01:36:28 Alisha Flores:Thank you

01:36:29 Scott Kiessig - ScIC | PocketLab: The next Science is Cool Unconference is happening October 28th. Ira Flatow, Chris Rush, OpenSciEd, Wow in the World, and more will be there! Sign up for ScIC7 at <https://www.thepocketlab.com/scic7>

01:36:30 Sarah Woods: PS. Love Teresa's shirt!

01:36:31 Stacey Reed: Thank you

01:36:32 Victoria Rizzo: thanks

01:36:32 Maria Elena Sevilla: Thanks!

01:36:33 Sandra Featherly: ty!

01:36:34 Brenda Altieri: Thank you everyone!
01:36:36 Wendy Agnew: Thanks!
01:36:36 Edie Enriquez: Loved it! Thank you!
01:36:38 Wilder Pirtle: I'll be there!
01:36:59 Daniela Dali: Thank you!
01:37:09 GALYNA PETRYK: Thanks
01:37:09 Dave Bakker - ScIC | PocketLab: Thank you so much everyone~