

Day One

Keynote • 9:00 – 9:30 am

“Teaching Science to the TikTok Generation”

– Marquita Blades

Today’s students are busy decoding pop culture and getting science lessons from influencers before they ever walk into their classroom. So, the question isn’t whether they’re learning science — it’s where, how, and from whom. Dr. Marquita Blades kicks off two days of science learning with what it means to teach science in a world where trends spread faster than facts. Reclaim science as the lens students need to make sense of their world — and give them the tools to think critically, challenge misinformation and see themselves in the story of science.

MORNING SESSIONS • 9:40 am – 12:10 pm

Choose **ONE** Full Morning Session OR **TWO** 70-Minute Sessions
One mid-morning break

Full Morning Session • 9:40 am – 12:10 pm

A-1: Meet Them Where They Are: Practical AI Tools to Help You Differentiate Your Science Instruction – Marquita Blades

How can you more easily ensure that you are maintaining the appropriate level of rigor while leaving no student behind? In this session we will explore using the Escape Room model and Google Forms and highly practical AI tools to create 3-D lessons that are inclusive for students at varying levels of achievement.

First 70-Minute Morning Sessions 9:40 – 10:50 am

CHOOSE ONE: A-2 or A-3

A-2: Powerful Ways to Make Science More Meaningful for Your Students – Vince Mancuso

Science education research shows that students learn best when their classroom experiences are personally meaningful. Explore how phenomena can be delivered in ways that profoundly affect students at personal levels. Discover how to construct experiences that can be more meaningful to students within the structure of your existing learning environment and lessons.

A-3: Selecting Phenomena That are Relevant, Engaging and Authentic – Marge Porter

In this lively session we will dispel the myth that anchor phenomena are just “hooks” that “wow” your students. Beginning with a variety of solid examples, we’ll explore what phenomena really are, how to select appropriate ones for unit storylines, and strategies for how they can best be utilized to engage learners in the process of science knowledge construction.

Second 70-Minute Morning Sessions 11:00 am – 12:10 pm

CHOOSE ONE: A-4 or A-5

A-4: Using Discourse to Collaboratively Construct Meaning of Phenomena – Vince Mancuso

One of educators’ fundamental roles in the science classroom is to frame and navigate the learning environment towards the co-construction of knowledge. Discover powerful strategies and techniques that foster more rewarding discourse, leading to a deeper understanding of natural phenomena.

A-5: Developing Prompts for Engaging Learners in the Science and Engineering Practices and Crosscutting Concepts – Marge Porter

Come to this session with a unit (or unit standards) in hand! You’ll learn and practice innovative ways to tweak classroom-ready prompts for both the crosscutting concepts and the science and engineering practices. There will also be an opportunity to zero in on a favorite unit and select prompts that can be utilized as formative assessments. Come prepared to collaborate and share!



Team Discount

ONE DAY

One Person: \$295

BOTH DAYS

One Person: \$545

**Team of 3+: \$525 per person
when enrolled at the same time**



Lunch break • 12:10 – 1:10 pm

... “Phenomenal. No question that the instructors love what they do.” ...



Who is BER?

The Bureau of Education & Research is North America's leading presenter of training for professional educators. Our goal is to provide high-quality PD programs, based on sound research, with an emphasis on practical strategies and techniques that can be immediately implemented.

"I highly recommend BER. I collected some of the latest and greatest sets of resources for science education today."

– Ella Maria, Science Educator



Day One

AFTERNOON SESSIONS • 1:10 – 3:40 pm

Choose **ONE** Full Afternoon Session OR **TWO** 70-Minute Sessions
One mid-afternoon break

Full Afternoon Session • 1:10 – 3:40 pm

B-1: Visual Literacy & Journaling as Mechanisms for Improved Science Engagement

– *Marge Porter*

Learn multiple evidence-based strategies for engaging learners in visual literacy and science journaling activities. Plan to put your student hat on to actively process, interpret, understand, and appreciate scientific information presented through pictures and other visual representations.

First 70-Minute Afternoon Sessions 1:10 – 2:20 pm

CHOOSE ONE: B-2 or B-3

B-2: Using Academic Discourse to Drive Your Science Lessons – *Marquita Blades*

Get your students sounding like the scientists and engineers that they are by learning practical methods for embedding opportunities for academic discourse into your existing science lessons. Leave with ideas you can use the next day!

B-3: Harness the Power of Discrepant Event Phenomena in Your Science Classroom – *Vince Mancuso*

A discrepant event phenomenon can be one of the most powerful and valuable strategies in a science educator's toolbox. The learning potentials of a discrepant event demonstration lie in their specific attributes, format and delivery. Discover the most rewarding features of discrepant events and learn to anchor them to lessons in ways that can meaningfully engage students and significantly influence learning outcomes.

Second 70-Minute Afternoon Sessions 2:30 – 3:40 pm

CHOOSE ONE: B-4 or B-5

B-4: Let AI Help You Incorporate Crosscutting Concepts Into Your Science Stations – *Marquita Blades*

Including multiple, much less all, crosscutting concepts in one lesson or lab can be a challenge. In this session, learn ways to use stations more intentionally to not only include crosscutting concepts, but also to support authentic mastery of the scientific inquiry process.

B-5: Delivering More Powerful Learning Experiences in Life Sciences/Biology

– *Vince Mancuso*

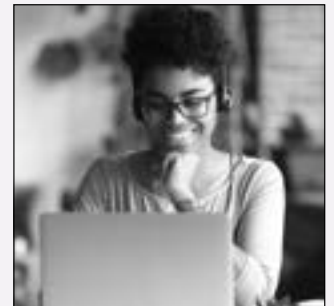
Among the most challenging disciplines to identify phenomena and develop lessons are the life sciences. In this interactive session, you will discover new and innovative lessons, phenomena and resources that align directly to the NGSS standards for life science, biology and anatomy.

Can't Attend?

Online Professional Development Options:

Related Online Courses

A related On Demand Video-Based Online Learning course, *Help Your Students Master the Next Generation Science Standards: Practical Strategies and the Best, New Tools*, for Grades 6-12, is available for immediate registration. To enroll, visit www.ber.org/online



Day Two

MORNING SESSIONS • 9:00 – 11:40 am

Choose **ONE** Full Morning Session OR **TWO** 75-Minute Sessions
One mid-morning break

Full Morning Session • 9:00 – 11:40 am

C-1: Using Phenomena to Launch and Drive a More Powerful Science Lesson

– *Vince Mancuso*

Among the most difficult challenges facing science educators is developing 3-dimensional curriculum. In this interactive session, you will discover how your existing or required science curriculum can be reshaped into more impactful science lessons. Learn minor modifications you can make in your current science lessons to easily transform them into more powerful 3-dimensional learning experiences!

First 75-Minute Morning Sessions
9:00 – 10:15 am

CHOOSE ONE: C-2 or C-3

C-2: Bump It UP With AI-Powered Resources – *Marquita Blades*

Learn how to incorporate both Cross Cutting Concepts and Science and Engineering Practices in practical ways, using the lessons and materials that you already have. Bring a copy of your favorite lab or activity that could use a little boost and we will Bump it UP!

C-3: Powerful Engagement Strategies for Your Science Lessons

– *Marge Porter*

Learn proven ways to combine “classic” evidence-based learning tools with motivating and useful apps, online applications and interesting data sources. Help your students dive deeper and strengthen their understanding of difficult science concepts using strategies that are guaranteed to reinforce the science practices and crosscutting concepts.

Second 75-Minute Morning Sessions
10:25 – 11:40 am

CHOOSE ONE: C-4 or C-5

C-4: The 3rd Dimension: Reinforcing Science and Engineering Practices

– *Marquita Blades*

Thinking like a scientist or engineer requires practice. In this session, you’ll receive examples of strategies that will help our students develop the skills necessary to master science and engineering practices and apply them in any situation.

C-5: Using Case Studies to Facilitate Problem-Based Learning

– *Marge Porter*

Learn how to incorporate problem-based learning (PrBL) by exploring case studies in science. Become familiar with the ins-and-outs of this student-centered approach in which the “problem” drives student motivation and learning. Support resources included!

Lunch Break • 11:40 am – 12:40 pm

On-Site Training

Conferences like this one along with many other topics can be brought to your school or district. Please view all of our On-Site PD options at www.ber.org/onsite or call 877-857-8964 to speak with an On-Site Training PD Consultant.

Comprehensive Digital Resource Handbook

You will receive an extensive digital resource handbook, specifically designed for this conference. Included in the handbook are resource materials for ALL conference sessions, even those you don’t attend. These materials include:

- Practical ideas for helping your students meet rigorous science content and practice standards
- Innovative strategies for integrating the science and engineering practices and crosscutting concepts into your science instruction
- Proven step-by-step techniques for planning engaging instructional sequences aligned to the NGSS
- Outstanding ideas for incorporating engineering into your science instruction

“This definitely helped me become a better science teacher. Can’t wait to take this back to my students!”

– Kaylynn Rivero, Science Teacher



Day Two

AFTERNOON SESSIONS • 12:40 – 3:20 pm

Choose **TWO** 75-Minute Afternoon Sessions • One mid-afternoon break

First 75-Minute Afternoon Sessions 12:40 – 1:55 pm

CHOOSE ONE: D-1, D-2 or D-3

D-1: AI Isn't Cheating — It's a Cheat Code: Science Teaching in the Age of Automation – Marquita Blades

Students are already using AI. So the question is: are we using it to make science teaching more effective or just more efficient? Actively create usable materials that require students to think with AI, not copy from it. You'll leave with a new perspective, ready-to-use prompts and resources to make AI your planning partner— not your competition.

D-2: Utilize Effective Student Assessment Strategies in the Phenomena-Driven Science Classroom – Vince Mancuso

Assessment techniques should complement the style of learning students experience in the classroom, which can present some unique challenges. This session will provide tools, resources and practical strategies for appropriate summative and formative assessment of student understanding of science and skill development in a 3-dimensional learning environment.

D-3: Using Explanatory Modeling to Help Your Students "Figure it Out" – Marge Porter

Learn to use phenomenon-driven explanatory modeling as a mechanism to construct science learning. Identify practical ways to more effectively take on the role of facilitator as your students work collaboratively throughout a unit to model and explain how a phenomenon works.

Second 75-Minute Afternoon Sessions 2:05 – 3:20 pm

CHOOSE ONE: D-4, D-5 or D-6

D-4: AI-Enhanced, 3-Dimensional, Problem-Based Science Instruction – Marquita Blades

Developing strong problem-solving skills can only happen if students have opportunities to practice solving problems. Learn how to enhance 3-dimensional practices by engaging in a sample problem-based lesson simulation. Leave with the resources you can use to duplicate the problem-based simulation model with your own students.

D-5: Guiding Students to Develop More Rigorous and Rewarding Research Questions – Vince Mancuso

The ability for students to develop their own research question is a critical skill that frames their investigation but is unfamiliar territory for most students. Discover proven strategies and scaffolding techniques that will guide students towards the construction of rigorous and rewarding research questions.

D-6: Engaging Strategies to Strengthen Argument-Based Science Inquiry in Your Classroom – Marge Porter

Embrace the practices of science with engaging research-based strategies that will strengthen your students' ability to formulate explanations from evidence, connect explanations to scientific knowledge, and communicate and justify explanations.

"This was a great conference to attend to get powerful strategies and tools to engage today's students."

– Alexander Dixon, Science Department Chair



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