

8:30AM-Welcome & Introduction and Light Breakfast

8:45AM-STEM: What Is It and Why Now?

Participants will dive deeply into an understanding of how to build and combine concepts and skills of Science, Technology, Engineering, and Math help to develop a 21st century global citizen. Participants will create a 3D graphic organizer based on a discussion about integrating the disciplines. They will also look at the current landscape of STEM education through interactive technology and the need for a prepared STEM-educated workforce in an increasingly globally-connected society.

9:30AM-How Should STEM Be Taught?

Through observation and an interactive experience, participants will learn how different interactions for students lead to different levels of understanding. Participants will also evaluate several instructional methodologies used for scientific understanding and explore how the new three dimensions of learning in the Next Generation Science Standards (NGSS) will require new instructional approaches.

10:15AM-Utilizing the Practices of STEM

Through a hands-on activity, participants will complete a design challenge using engineering terminology such as criteria and constraints to build a tower. The Engineering Design Process will be introduced using an inquiry approach in which participants reach understanding through consensus building and cooperative structured protocols. STEM instructional practices for student-centered learning will be modeled and experienced.

11:15AM-Lunch

11:45AM-What Matters Most in Creating a STEM-Centered Classroom?

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Based on an understanding of the five levers for improving student learning, participants will discuss, debate, and, through research-based evidence, take away a comprehensive list of evidence-based practices and actions for the most important lever for change in the classroom—the teacher.

12:30PM-STEM in Action: "Building a Barge"

Using an activity from the STEMscopes curriculum, participants will be given an inquiry-based challenge to build a barge that will float and hold the heaviest load, using only the materials given. Through STEM protocols they will design a solution to the problem, test the solution, and redesign as needed until the time constraint is reached. STEM instructional strategies will be embedded and modeled to show how a discovery-based model of instruction is used to create student-centered learning and engagement for all.

2:00PM-Putting It All Together

Participants will have an opportunity to preview a comprehensive STEM curriculum delivered through an online, digital platform and make connections from all of the activities, experiences, and discussions from the day.

2:30PM-Q&A and Closing

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What do we need to know today to prepare tomorrow's STEM leaders for the challenges of college and career? Learn about the latest in STEM education research and pedagogy from two of STEMscopes' lead experts on lesson design and the value of STEM in 21st-century learning.



Reid Whitaker, PhD Chief Academic Officer

Reid Whitaker is the creator of STEMscopes, which led to his being named by EdTech Digest as one of the nations leading "Eduprenuers" or Education Entrepreneurs. Awards and titles are fine with him, but what's most important is being an educator of science and an advocate and administrator of providing a high-quality education for our most underserved and underrepresented students.

He began his teaching career with Teach For America as a 5th grade self-contained elementary science teacher, for which he was awarded the HEB Texas Excellence in Education Rising Star Award. Reid also provided numerous hours of professional development training and coaching to teachers in Houston ISD by being a content specialist for the district and then as an Associate Director for the Center for Education at Rice University. Subsequently, Reid returned to Port Houston Elementary as principal. In his three years as principal, he raised the accountability rating of the school from Academically Acceptable to Exemplary, earning Port Houston Elementary a spot in the top 2% of all HISD schools for student growth. In 2009, Reid received the distinguished Houston's Emerging Leader Award from the Greater Houston Partnership.

Questions or concerns? Contact your local STEMscopes Manager:

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