

Shift from Middle Schoolers Learning about STEM to DOING STEM

National Career Pathways Network Virtual Conference

Session Objectives:

Participants will:

- Learn about SREB’s MG STEM curriculum products
- Examine SREB’s Powerful Project-based Learning Practices.
- Discuss how middle grades students can shift from learning about STEM careers to doing projects in STEM careers.
- Determine how these projects can be implemented in your school.

Agenda

Section	Description and Linked Resources
1	Opening <ul style="list-style-type: none"> ● Welcome ● Objectives ● Who is SREB ● Why focus on STEM? ● Two questions and a lesson learned ● Important points to consider
2	SREB’s Middle Grades STEM Projects <ul style="list-style-type: none"> ● Sample Project Description ● Framework for each PBL Unit ● SREB’s Powerful PBL Practices ● Literacy ● Math
3	Implementation <ul style="list-style-type: none"> ● Implementation Models ● Professional Learning Options ● Covid Adaptations
4	Costs and Summary

- Costs
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- Final Thought/Questions

** SREB does not endorse specific brands or technology vendors.*

CTE in a Virtual Setting

Session 1: CTE in a Blended Instructional World--Friday, September 11, 2020

<https://tinyurl.com/SREB-Virtual-CTE>

Session 1 PowerPoint

Our Mission...

To maintain the student-centered nature of CTE and to provide opportunities for CTE teachers to learn, collaborate and share resources and innovative ideas.

Session Goals:

- To develop a focused outline of instruction for the year that:
 - reorganizes the sequence of delivery to support virtual, blended and on-site learning and
 - prioritizes synchronous learning activities to advance understanding and ensure application of concepts and skills.

Session Objectives:

We will:

- organize and prioritize course content for virtual and blended delivery options.
- determine how to align synchronous and asynchronous learning to best benefit student engagement and mastery.
- review technology tools that can be used to enhance engagement in virtual sessions.

Agenda

Activity	Description and Linked Resources
1	<p>Welcome, introductions and overview of the session</p> <ul style="list-style-type: none"> • Do-Now Chat Activity: What is your virtual superpower? • Session 1: Student View of Virtual Activities • Training Protocols and Session Tools • Cold Call; Thumbs Up/Down; Session Norms

	<ul style="list-style-type: none"> ● Zoom basics--meeting controls video ● Help options (private chat; main room) ● Got Ideas...? Instructional/Learning Activities Chart (This is a view only file. Please download to your device to use.) ● Review of today's action agenda, mission, goals and objectives ● Our Class Profile (Results from Our Google Form)
2	<p>Zoom* Annotate</p> <ul style="list-style-type: none"> ● Temperature check...how are you feeling today? ● Overview of tech tools we will use today
3	<p>Collaborating in a Breakout Room</p> <ul style="list-style-type: none"> ● Breakout Room Teams <ol style="list-style-type: none"> 1. Ag/Manufacturing/Transportation/Construction 2. Business/IT 3. Education/Hospitality 4. Health/Law 5. STEM ● Activity 3: Breakout Room Assignment <ul style="list-style-type: none"> ○ Introduce yourself to your team! ○ Assign Job Duties for Team Members: <ol style="list-style-type: none"> 1. Timekeeper – paces the team in the breakout room. 2. Facilitator– guides the discussion and completion of the task within the breakout room. Helps to ensure equity of voice. 3. Techno-Scribe – enters the answers/summary statements into the provided online artifact and submits the team's findings. 4. Reporter – presents the team's answers/key points back to the whole group. ○ Ensure that the techno-scribe can access the agenda and screen share it. ○ Ensure that the reporter's audio is working properly. ○ Return to the main session when prompted.
4	<p>Sharing Lessons Learned</p> <ul style="list-style-type: none"> ● Chat Discussion: What have we learned about virtual instruction? ● Activity 4: Sharing Ideas--Successes, Struggles and Solutions ● Using an Organizer to Collect Ideas (Two CTE Examples) <ul style="list-style-type: none"> ○ Additional Vocabulary Building Organizers ● Three Column Organizer to Share Successes, Struggles and Solutions (Activity Slides) ● Activity 4: Breakout Room Directions ● Your techno scribe will access your group's graphic organizer (linked above).

	<ul style="list-style-type: none"> ● Your facilitator will begin the sharing process using the following protocol: <ol style="list-style-type: none"> 1. Each person will share one example from their personal organizer starting with the first column (successes). 2. Come to a consensus about key ideas and add to the graphic organizer. 3. After everyone has shared, the facilitator will move to the next column (struggles). 4. Continue the process until all boxes are completed. Provide links to solutions/resources if possible. ● Breakout Room Debrief
<p>5</p>	<p>Digging Deep into One Course</p> <ul style="list-style-type: none"> ● Chat Discussion: How will you maximize the time you have with students? ● Scope and Sequence ● Building a Clear Road Map for the Year ● Middle School STEM Example--Reorganizing Content ● Outline Your Year--AC Energy and Power Example ● Activity 5: Breakout Room Directions <ul style="list-style-type: none"> ○ Your techno scribe will access your group's Padlet from the links below. <ul style="list-style-type: none"> ■ Ag/Manufacturing/Transportation/Construction Padlet ■ Business/IT Padlet ■ Education/Hospitality Padlet ■ Health/Law Padlet ■ STEM Padlet ○ Identify the course(s) that your team will discuss and outline on the padlet. ○ Please note that your padlet has multiple rows so that one course can be outlined per row. ○ Work with your team to discuss the flow of your course for the year. Add posts with each unit's name and projected time parameters. ○ Use the ellipsis (three dots) on the post to change the color of the post to green. ○ Reporters be prepared to share key ideas. ● Breakout Room Debrief
<p>6</p>	<p>How Can We Maximize Time?</p> <ul style="list-style-type: none"> ● Chat Discussion: How will you keep your virtual lessons student-centered? ● Lessons Learned from Flipped Classrooms ● Synchronous or Asynchronous--THAT is the Question... ● Research on Student Attention Spans ● Dale's Cone of Experience ● How to Decide on Content Delivery?

	<ul style="list-style-type: none"> ● Activity 6: Breakout Room Directions <ul style="list-style-type: none"> ○ Access your group’s Padlet from the links above. ○ Add in notes about content and skills that can be delivered in: ○ Same Time—Synchronous Learning in BLUE ○ Any Time—Asynchronous Learning in PINK ○ Brainstorm with your group to add innovative ideas for Labs/Investigations in YELLOW ○ Reporters prepare to share trend ideas for same time, any time and lab-based instruction. ● Sample Student Created Padlet ● Breakout Room Debrief
7	<p>Lesson Summary and Next Steps</p> <ul style="list-style-type: none"> ● Summarizing Our Learning ● Summary of Engaging Tools (Instructional/Learning Activities Chart) ● Ticket Out the Door--Stop Light Reflection--Using the stoplight color code, share your learning status in the chat. Provide one “Aha” or question to support your identified color. ● Session 2 Overview (Friday, September 18th) ● Homework <ul style="list-style-type: none"> ○ Looking ahead for Session 2: <ul style="list-style-type: none"> ■ •Review potential virtual norms ■ •Identify virtual procedures to support effective management ■ •Read Shop Class, Over Zoom and be prepared to discuss lab set-up and strategies that align with social distancing expectations ○ Looking ahead for Session 3: <ul style="list-style-type: none"> ■ •Identify a unit that you will redesign for virtual and blended delivery ■ •Select 2-3 technology tools or applications that you will use to support active student engagement ● Thank you!
Additional Resources	<p>SREB CTE Resources (Website) Edpuzzle SREB Virtual Resource Padlet Padlet Quick Facts TinkerCad.com CodeHS Website</p>

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