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Empowering Students Through Science

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Empowering students through science


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UNI Science Education Update Conference
Goal: Gain strategies to engage students in STEM through experiences that will transfer beyond the classroom walls.
Teaching Science
Think to yourself about these two concepts:

- What is STEM?
- Why is STEM important?

Turn to your tablemates and share your answer.
Come to a consensus at your table around a definition.
STEM

- Engagement
- Higher order thinking
- Integration
- Authentic
- Real-world
- Propels students into their future
What does that look like?

- Innovative Measures of Learning
- Flexible Learning Spaces
- Solving Relevant Grand Challenges
- Having Accessible Activities that Promote Risk and Play
- Engaged and Networked Communities
- Promoting Diversity
**Task**

Thinking about the 6 big ideas around STEM, brainstorm and write down different ideas or things that you have done around each one.

Be prepared to share out!

- Innovative Measures of Learning
- Flexible Learning Spaces
- Solving Relevant Grand Challenges
- Having Accessible Activities that Promote Risk and Play
- Engaged and Networked Communities
- Promoting Diversity
Integration

- Connections across content areas-both standards and concepts
- Authenticity
- Student Voice and Choice
Business Partnerships

Why do it?
- Transfer of content outside of classroom walls
- Career ready experience

What does it look like?
- Google Hangout with a farmer showing a harvest
- Skype with other careers to introduce a project
- Bringing them into the classroom to provide feedback throughout a project

Examples:
- Redesigned classroom-WWA
- Interest project
  - Multiple businesses presenting a problem and choosing the problem/career they were most interested in
Makerspace

Purpose:

Provide a space for students to be creative and solve problems that includes:

- Hands-on
- Collaboration
- Critical thinking
- Voice and choice
- Problem solving
Student Voice and Choice

- Product
- Seating
- Collaborative groups or individually
- Topic
Self-paced learning

Flipped Classrooms:
- Utilizing technology to continue facilitation to allow students to move at their own pace

Learning Pathways
- Provide opportunities for moving at own pace
- Teachers can provide checkpoints and feedback
Where do I start?

- One thing at a time
- Think about it in stages
  - Today
  - Next month
  - Next semester
  - Next year
- Who can I collaborate with?
  - Next door
  - Down the hall
  - In the community
Look back to your definition of STEM

What are your core beliefs around STEM education and providing learning experiences for students?

How can you accomplish those beliefs?
Thank you!

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