

What was your
first job?

STEM Educator Empowerment

The STEM ConnectionSM
Connecting STEM to the Natural WorldSM



Indiana Non-Public Educators Conference

October 4, 2021



The STEM Connection

TSC is a non-profit organization that works to educate and empower children and adults in the principles of science, technology, engineering and math through relevant hands-on learning experiences that will help them be successful today and in the future.

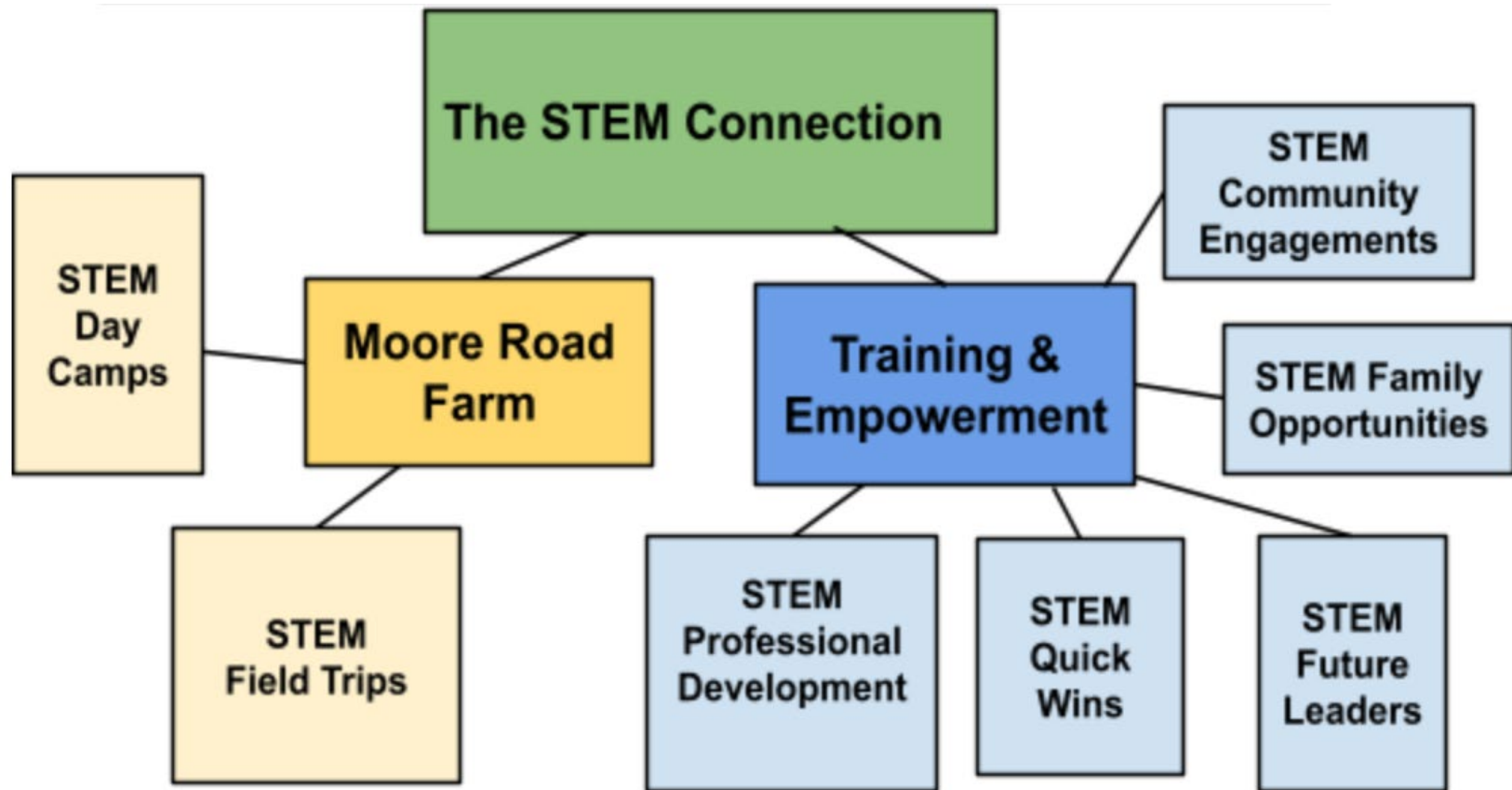
Through our work we seek to:

- Provide opportunities for youth to engage in meaningful STEM experiences.
- Foster creativity, discovery, problem solving, and innovation.
- Nurture STEM practices, employability skills, and positive STEM identities.
- Utilize best practices, state standards, and collaborations.
- Connect with populations underrepresented in STEM.

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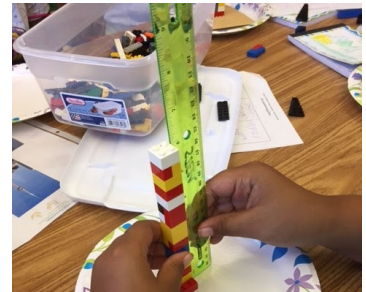
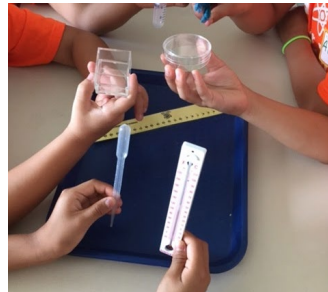
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STEM Defined

- **STEM** - Science, Technology, Engineering, and Mathematics
 - **Science** - the study of the natural world
 - **Technology** - any tool or machine made by humans to meet a want or need or solve a problem
 - **Engineering** - using the engineering design process to solve a problem
 - **Mathematics** - the language of numbers, shapes, and quantities



STEM Practices



Science	Technology	Engineering	Math
Observing Classifying Comparing Contrasting Researching Testing Creating Criteria Collecting Data Solving Problems Inquiring	Choosing Tools Using Tools Naming Tools Measuring Scooping Mixing Pouring Creating Inventing Innovating	Asking Imagining Planning Creating Building Inventing Predicting Testing Modifying Improving	Counting Comparing Putting in Order Patterning Measuring Calculating Sequencing Reasoning Computing Communicating

IN Employability Skills Standards

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<p>Mindsets Lifelong Learning Self Confidence</p>	<p>Social & Emotional Skills Regulation Connection Collaboration</p>
<p>Work Ethic Self Discipline Independence Perseverance Time Management & Organization Adaptability Integrity Professionalism</p>	<p>Learning Strategies Effective Communication Aptitude Awareness Decision-Making Initiative Attention to Detail Problem Solving</p>

Source: [Indiana Department of Education](#)

STEM Six-Year Strategic Plan IN

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Vision: All Indiana students in grades K-12 will graduate with critical thinking skills and be prepared for an innovation-driven economy by accessing quality, world class STEM education every day in the classroom by 2025.

Mission: Ensure Indiana teachers are prepared to provide every student in grades K-12 with an evidence-based, effective STEM education by 2025.



STEM Six-Year Strategic Plan for Indiana

Strategic Objectives and Goals:

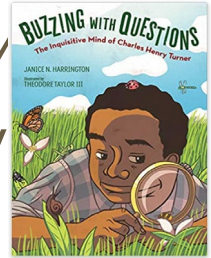
1. Improve STEM Instruction: 100 percent of Indiana K-12 teachers will be trained in problem/project/inquiry-based approaches to learning by 2025.
2. Scale Evidence-based STEM Curriculum in Classrooms: 100 percent of Indiana schools will implement integrated, evidence-based STEM curriculum by 2025.
3. Foster Early STEM Career Exposure: 100-percent of Indiana schools will create and sustain robust STEM related business and industry partnerships in order to inform curriculum, instruction, and student experiences to foster college and career readiness by 2025.

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Strategies for STEM Career Introduction

- Provide opportunities for youth to interact with people from STEM careers - guest speakers, career fair, meet the expert
- Provide opportunities for youth to read related books and about people with STEM
- Provide opportunities for youth to see and use STEM tools
- Interview a STEM Professional [Lesson](#)
- [STEM Quick Wins](#)



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STEM Professionals

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Whitney Harden
Wunderkind



Toni McEwan
Corteva Agriscience



Tom Spreacker
Dell Technologies

Questions for STEM Professionals



- What is your current title?
- Why do you do what you do?
- Is this where you thought you would be when you were younger?
- How do you spend most of your time at work?
- Who has influenced you the most?
- What struggles did you face in getting where you are now?
- Professionally, what are you most proud of?
- In your career, do you work with other people? How?
- What technology do you use for your job?
- What can I do with your degree and/or experience?

STEM Quick Wins

Free virtual, experiential, and relevant science, technology, engineering, and math activities that can be done with easily accessible materials in a short amount of time.

SQW Activities:

- Are based on Next Generation Science Standards, Indiana Science, Math, and Engineering Process Standards, Indiana Afterschool Speciality Standards for STEM, and employability skills standards.
- Are relevant to the current crisis, and touch on a variety of STEM content and practices.
- Are designed for kindergarten through 5th grade students but can easily be differentiated for preschool and middle school students.
- Have an activity sheet and short video showing the activity.
- Include STEM career and literature connections.

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Where to Access STEM Quick Wins

- Weekly posts on Facebook - 2 pm each Wednesday - <https://www.facebook.com/thestemconnection/>
- TSC website - <https://thestemconnection.org/stem-quick-wins/>
- Our YouTube Channel - [The STEM Connection](#)

The STEM Connection posted a video to playlist STEM Quick Wins — at The STEM Connection. June 2 · Indianapolis · 🌐

STEM Quick Win: Paper Chain Challenge

Chains are useful tools for fastening or securing objects, pulling or supporting loads, or other purposes. A chain is a connected flexible series of links and can be found all around us. Where do you see chains around you? Join us for this STEM Quick Win to learn how to make a chain using paper, scissors, and tape.

Activity Sheet: <http://bit.ly/STEMPaperChainChallenge>.

Join us for new #STEMQuickWins Wednesdays at 2 PM!

Paper Chain



What stuck?



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STEM Quick Wins