



## The Iowa Million Girls Moonshot Minute

December 2020

*Welcome to the Iowa Million Girls Moonshot Minute! This new, monthly publication from the Iowa Afterschool Alliance provides dozens of STEM out-of-school time professional development opportunities and activities to strengthen the quality of programs across the state. We hope that you find these resources valuable! Learn more about the national Million Girls Moonshot movement [here](#).*

## Iowa STEM Resources and Trainings

Educators and afterschool professionals are invited to participate as we explore the impact of inequities in engineering and STEM learning. Join us to expand your instructional “toolkit” with tools, tips and strategies to address inequities in the after school learning environment. These webinars will be brought to you by the Active Community Learning Partnership (ALCP) and is part of a five part series made possible by the Million Girls Moonshot Innovator Grant and STEM Next Opportunity Fund. All ALCP Team members are trained as STEM “Dimensions of Success” observers and certified by the PEAR Institute at Harvard University.

### How to Effectively Engage Families for your STEM Program

Wednesday, January 20, 9:00-10:00 am

[REGISTER FOR WEBINAR](#)

More information coming soon!

## Million Girls Moonshot Resources

### Featured Webinars

Engineering Design with Technovation Webinars  
Engineering Design Challenges Session 3

 **TECHNOVATION**

Thursday December 10, 2:00-3:00  
Experts: Technovation Program Staff  
**REGISTER FOR WEBINAR**

- You'll make a plan to help your students deal with hard parts like persisting through failure and encouraging creativity
- You'll reflect and revisit tools introduced earlier to look at them differently
- All while making a water collection system in a design challenge you can use with your students.

Bring these materials to the session with you:

- Skewers
- Tape
- Scissors
- Cardboard or foam core
- Cups
- Straws
- Foil
- Cups (with holes punched in the bottom) + water for testing

View previous Engineering Design Challenges here:

- Engineering Design Challenges Session 1: **Recording, Slides**, and hundreds of **Engineering Design Challenges on Curiosity Machine**
- Engineering Design Challenges Session 2: **Recording, Slides**, and hundreds of **Engineering Design Challenges on Curiosity Machine**

### Engineering Mindset Recorded Webinars

- Engineering Practices Support Equity Part I: **Recording**
- Engineering Practices Support Equity Part II: **Recording**
- Engineering Practices Support Equity Part III: **Recording**
- **Engineering Mindset Activities** (Includes facilitation instructions and materials list)

### Dimensions of Success Certification Training

*Dimensions of Success (DoS)* is an overarching framework that defines key aspects of a quality STEM learning experience created by Partnerships in Education and Resilience (PEAR). DoS forms the backbone of a suite of tools and guides designed to help out-of-school-time (OST) programs improve the quality of their STEM offerings. The DoS suite of tools allows researchers, practitioners, funders, and other stakeholders to track the quality of STEM learning opportunities and to pinpoint strengths and weaknesses.



To become a certified DoS observer, the process involves a two-day live webinar training, completion of video calibration exercises, a one-hour live calibration session, and successful completion of two practice observation in the field. PEAR staff provides ongoing technical assistance, quarterly data reports, and online data management support for all DoS observers for two years post-certification.

Dimensions of Success (DoS) Certification Training  
January 20th - 21st, 2021; 10:00 am - 4:00pm  
Experts: PEAR DoS Trainers  
**REGISTER FOR WEBINAR**

## Best Practice and Professional Development

### Developing and Expanding Partnerships

- **Rubric: Are We A Partnership Yet?** - This rubric allows partners to assess the maturity of a partnership and provides some direction for growth.

### Broadening Participation in STEM

- **Book: Youth Development in Out-of-School Time Setting (2018)** - Comprehensive book on youth development in out-of-school time settings. It includes a chapter on 10

principles of effective youth development.

- **Paper: Why Now? Why Us?: Inclusive 21st Century Learning** - Paper from the National Center for Learning Disabilities identifying key strategies, case studies and actions for impact.
- **Best Practices: Techbridge Essential Elements** - Techbridge Girls' Essential elements are guiding principles for high-quality, equitable STEM programs for girls. These essential elements are based on Techbridge Girls' 18 years of experience, their evaluation and research, and research from the field.

## Together at Home – Activities for Youth and Families

- **Student Activity: Materials and Manufacturing** - In this activity based on the story of the three little pigs, students examine the properties, limitations, and durability of a variety of materials, then evaluate which of the materials would be best for building a model house.
- **Student Activity: Engineering Solutions to Freshwater Problems** - In this activity, students are introduced to six freshwater supply problems in various locations around the world. Students brainstorm their own ideas for solving each problem and then learn about the specific solutions that engineers have proposed.
- **Student Activity: How High Can a Super Ball Bounce?** - In this activity students explore how engineers might use elasticity of material to help them design products. Working in pairs, they drop bouncy balls from a meter height and determine how high they bounce. Youth measure, record and repeat the process to gather data to calculate average bounce heights and coefficients of elasticity.
- **Student Activity: Community Engineering** - This website provides engineering challenges that are community-based and includes learning modules on topics like school gardening, classroom renovation, and designing an accessible playground.
- **Engineering Design Activities on Curiosity Machine** - Sign up for hundreds of FREE Technovation Engineering Design Activities with facilitation instructions and videos featuring STEM professionals and mentors.

## Additional Virtual Professional Development

- **Gender Equity in Online STEM Learning** - In this webinar recording from the National Girls Collaborative Project (NGCP), find out what works for girls from preschool and early elementary to middle school and high school, potential adaptations, and new ideas to consider when teaching girls STEM online.
- **Exemplary Practices using Girls STEAM Ahead with NASA Free Resources** - In this webinar recording from the NGCP, explore the free NASA resources, along with accompanying exemplary practices.

---

*This work of the Iowa Afterschool Alliance is made possible by funding from STEM Next and the Million Girls Moonshot Innovator Grant. The mission of MGM is to expand STEM opportunities, specifically in the field of Engineering, for girls across the United States, which is made possible through state partnerships.*

