

Welcome!

NGCP National Webinar:

Learn to Be an Ally to Girls and Women in STEM



National Girls
Collaborative Project



NGCP 

20 YEARS TRANSFORMING STEM

Learn to Be an Ally to Girls and Women in STEM

June 6, 2023

NGCP Vision

The vision of the National Girls Collaborative Project is to **support and create STEM experiences** that are as **diverse as the world we live in.**



Our Goals

Connect + Create + Collaborate

1

Build and sustain a network of advocates to provide equitable and inclusive STEM opportunities.

2

Catalyze equity in STEM from research to practice by providing actionable knowledge that transforms the STEM experience.

3

Increase our collective impact by strengthening organizational effectiveness and enhancing our fiscal sustainability.



NGCP Activities

- Network Partnerships
- IF/THEN Collection
- FabFems
- Youth Advisory Board
- State Leadership Teams



National Webinars

- Offered monthly on topics to help our networks grow and thrive
- Speakers include educators, researchers, authors, and diverse STEM professionals
- Sign up: <https://www.ngcproject.org/events-announcements>

"I have gotten more out of this than the dozens of other presentations I have attended this summer."

"I found this useful and enjoyable."

"I really like all the resources placed in the chat that I can go and flip through to find what is most helpful to my organization"



NGCP Newsletter

- National in-person and online events
- STEM resources for engaging girls and youth, professional development opportunities for educators, and opportunities for youth
- Research and reports related to STEM and equity, informal STEM education and learning
- NGCP updates and events, including webinars, knowledge products, and tools



NGCP 

20 YEARS TRANSFORMING STEM

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June 6, 2023

Speakers



Joanne Esch



Snehal Bhakta



Joshua Sneideman





**THE
IDEA
YOU
DON'T
HAVE**

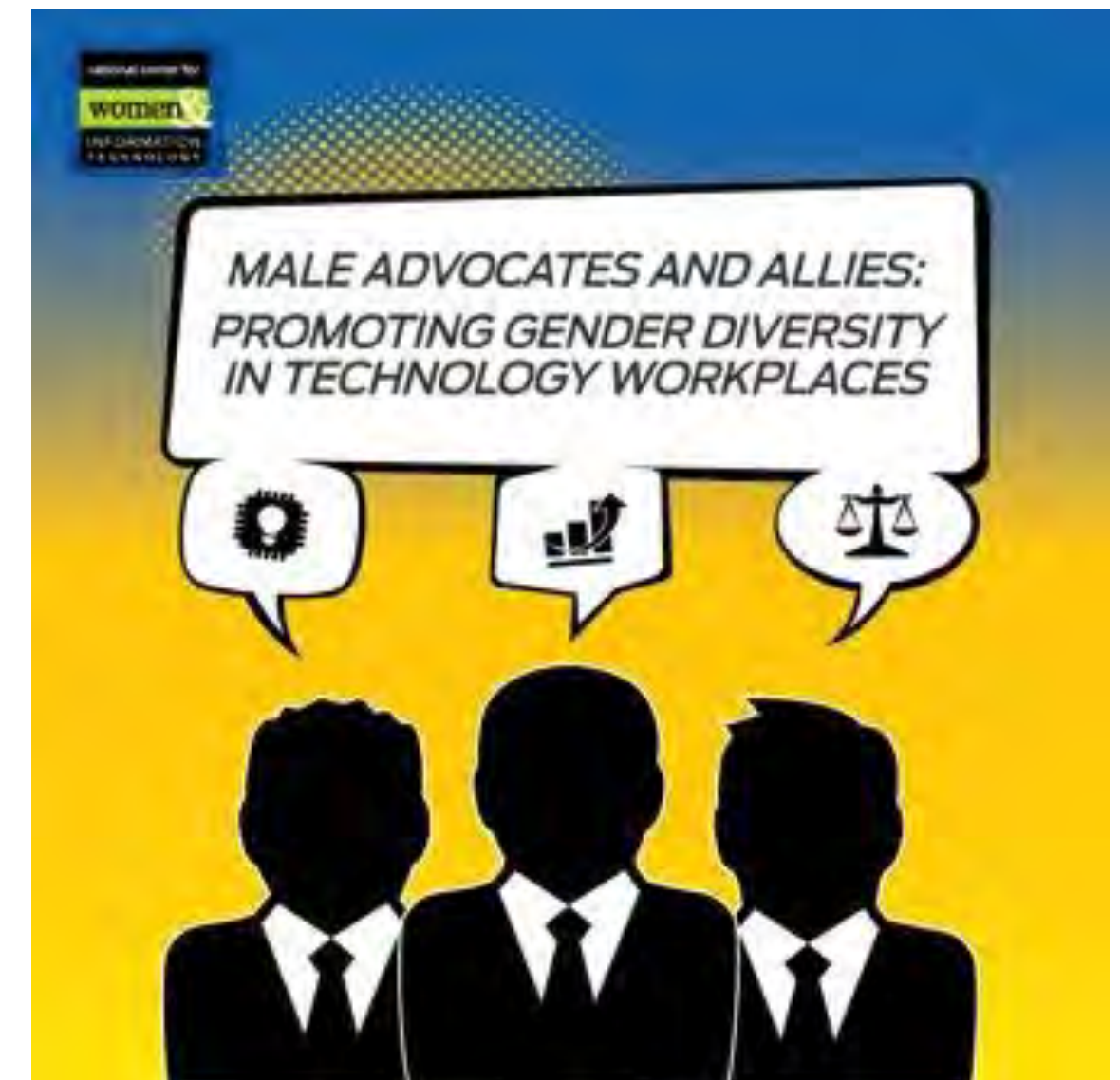
**IS THE
VOICE
YOU
HAVEN'T
HEARD.**

**NCWIT.
Inclusion changes
what's possible.**

Why Focus on Men & Majority-Group Allies?

“85% of our leaders are men in this company, and if they are not gender advocates then the culture won’t change.”

- ✓ Women report that support to pursue and persist in STEM careers often comes from men
- ✓ Diversity and inclusion should involve everyone



Setting the Stage for Success

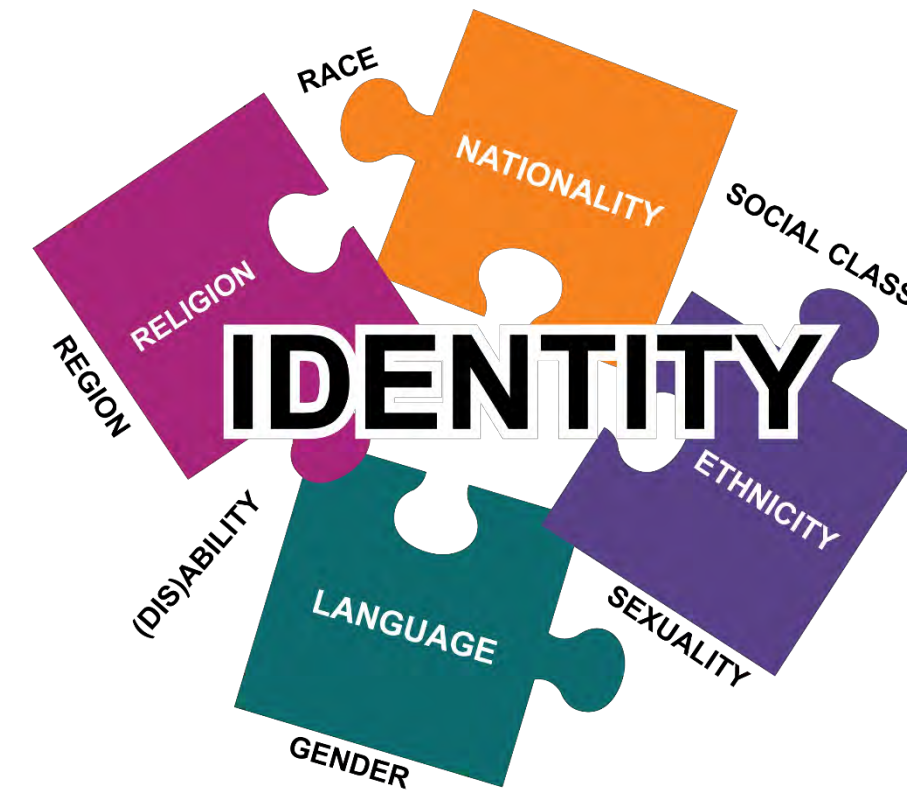
These strategies are not limited to men

- ✓ But *position* and *identity* DO matter
- ✓ Sometimes in a better position to make change



Majority-group allies are needed

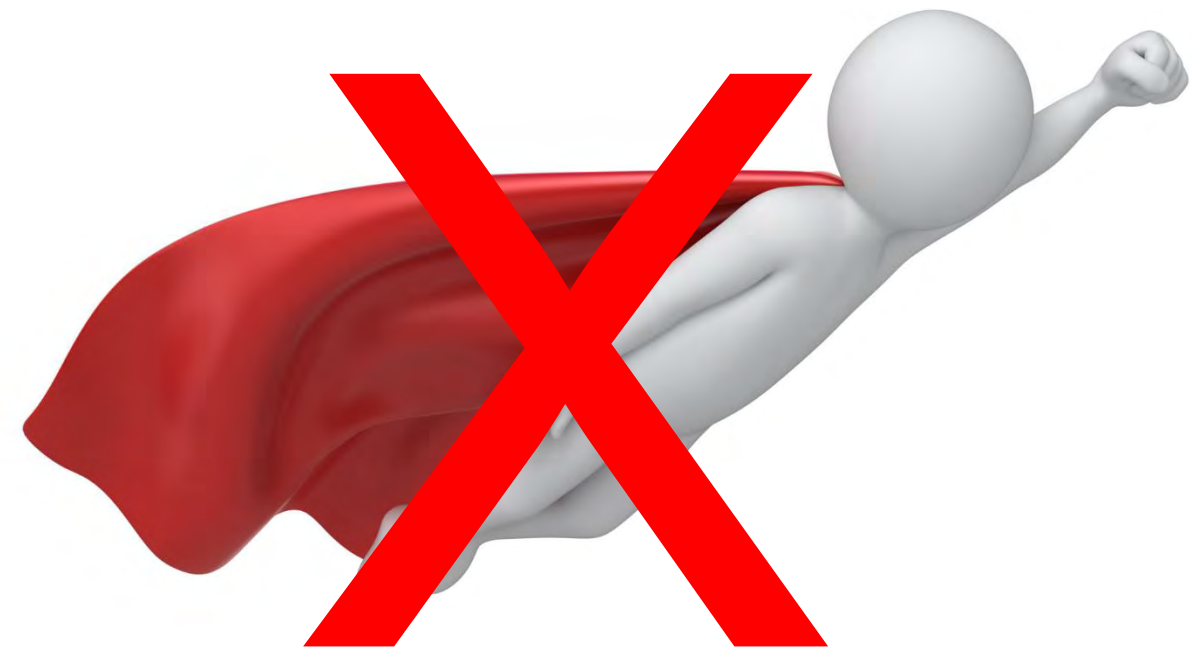
- ✓ Women & men **not** homogenous groups
- ✓ **Shifting Allyship:**
Sometimes an ally;
sometimes could use one



Intersectionality

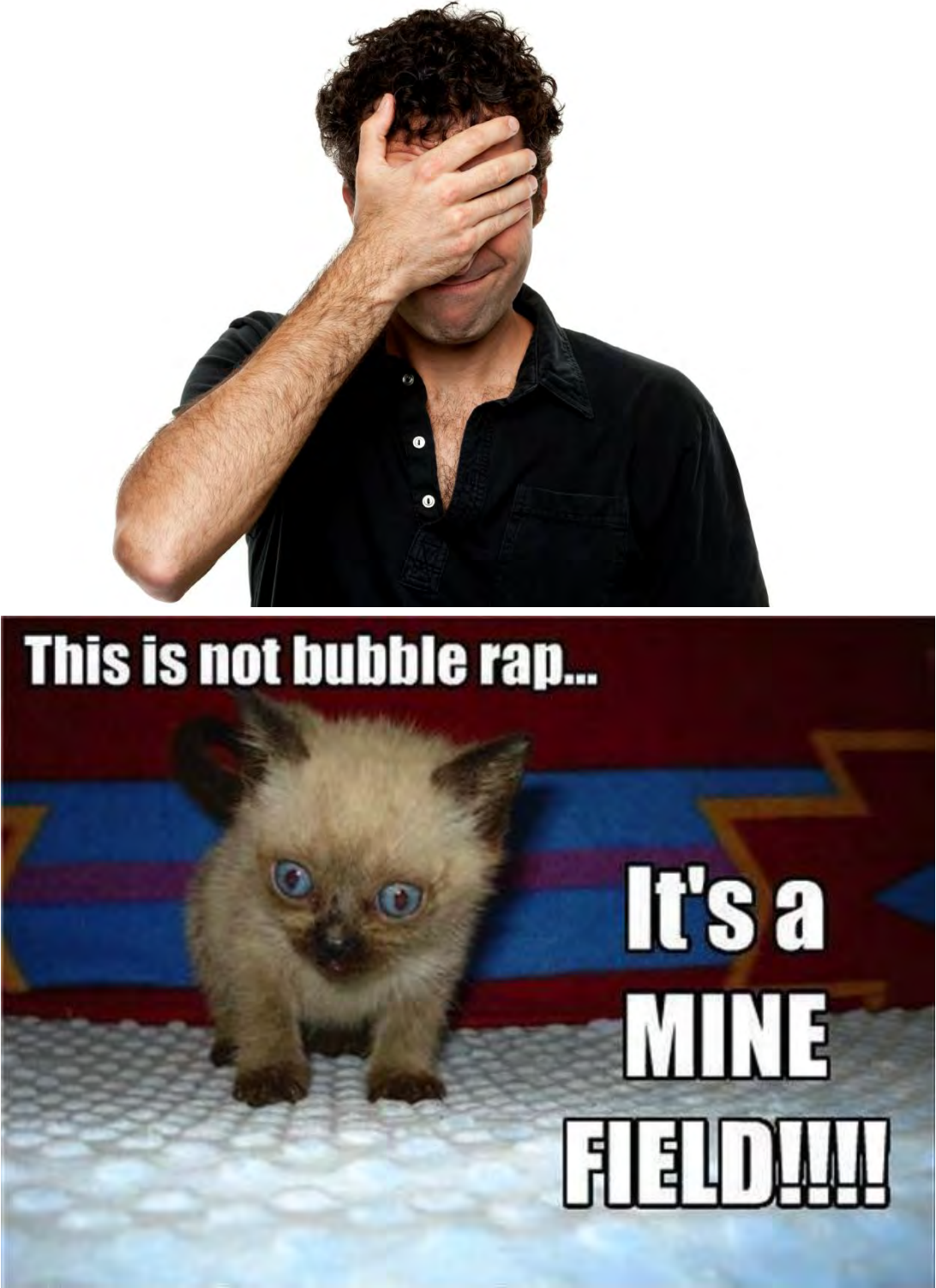
What allies and advocates do

- ✓ Listen, learn, and reflect
- ✓ Promote inclusive environments
 - ✓ Dismantle barriers
 - ✓ Recognize and interrupt bias
- ✓ **Not** about “helping” or “fixing” individual women



HERE I COME TO
SAVE THE DAY!

It's ok to make mistakes!



Start Small, Start Now!

Things You Can Do Starting Today

NCWIT's Male Ally Toolkit

www.ncwit.org/ma-toolkit

ncwit.org

Listen to women's stories

“We were in a big meeting and...she made a comment about how difficult it was for her to be a leader in the organization as a woman. And so, here is someone who I literally was putting on a pedestal saying this...And I...was like, ‘Wow!’

So I asked her after the meeting... ‘Hey I want to go to lunch with you, I want to understand this!’”



Talk to other men

“I run into plenty [of men]...where they’re open to the conversation but they don’t feel a compelling need to do anything about it. They lack awareness that they have the ability right now to change it.

And when I talk to them about it and engage with them, many of them...start thinking about it differently... just a little bit more openness.”



Recognize and Push Back Against Bias



Bridge the Encouragement Gap

- Encouragement from parents, teachers, coworkers, mentors, and supervisors makes a measurable difference for persistence in STEM
- Provide encouraging messages to girls and boys early, often, and equally



Promote Growth Mindset

Fixed Mindset

Growth Mindset

View of intelligence and ability

Fixed traits: born that way

Can be developed: experience/exposure

View of effort

It should come naturally; if it's hard you might not be "good at it"

Working hard is an important part of being good at something

Your goal

Look smart & capable

Learn

How you accomplish it

Hide mistakes and deficiencies; take fewer risks

Mistakes are learning opportunities; take more risks

Improve Group Dynamics

- ✓ Solicit opinions of quieter group members – now OR later
- ✓ Intervene when someone is interrupted or not getting credit
- ✓ Find an ally who can support and help notice these things



Interrupt Everyday Biases

- ✓ Patterns in task distribution in groups: “Sarah can do the design”
- ✓ Gendered expectations: “Not a risk-taker; not very confident; not a natural leader”
- ✓ Doubt Raisers: “Need to see more evidence”



Sponsor and Mentor

SPONSORS ACT

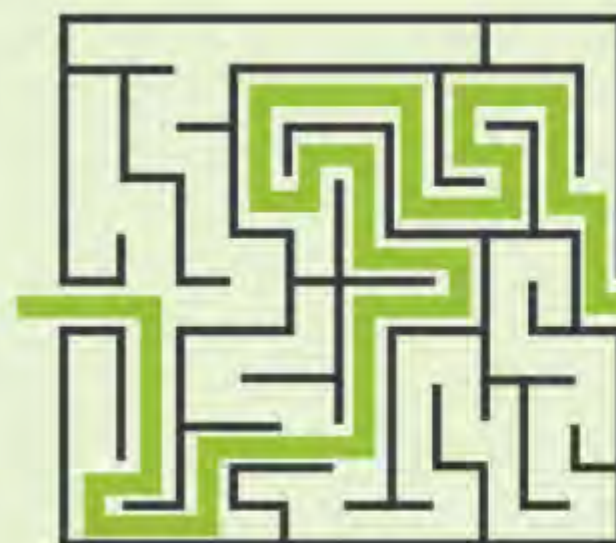
Sponsors...

- connect protégés to career opportunities.
- advocate for protégé's advancement.
- support risk-taking.
- publicly endorse protégés.
- expect high performance in return.
- help protégés confront and interrupt bias.

MENTORS ADVISE

Mentors...

- reduce isolation and stress.
- navigate unwritten rules.
- build confidence.
- provide tips and strategies.
- promote inclusion to company.



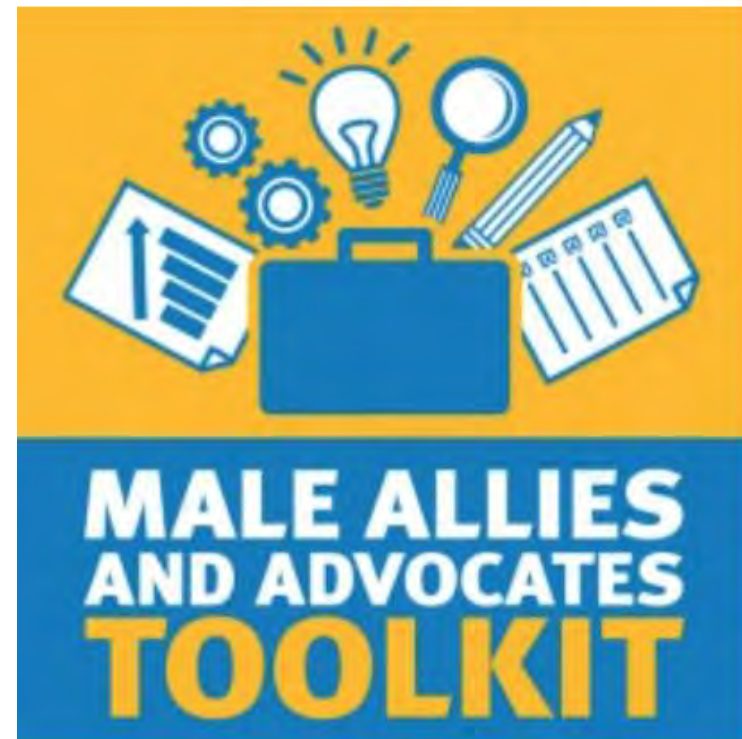
Mentoring helps traverse the organizational maze but *sponsoring* helps to *change it*.

Take the plunge

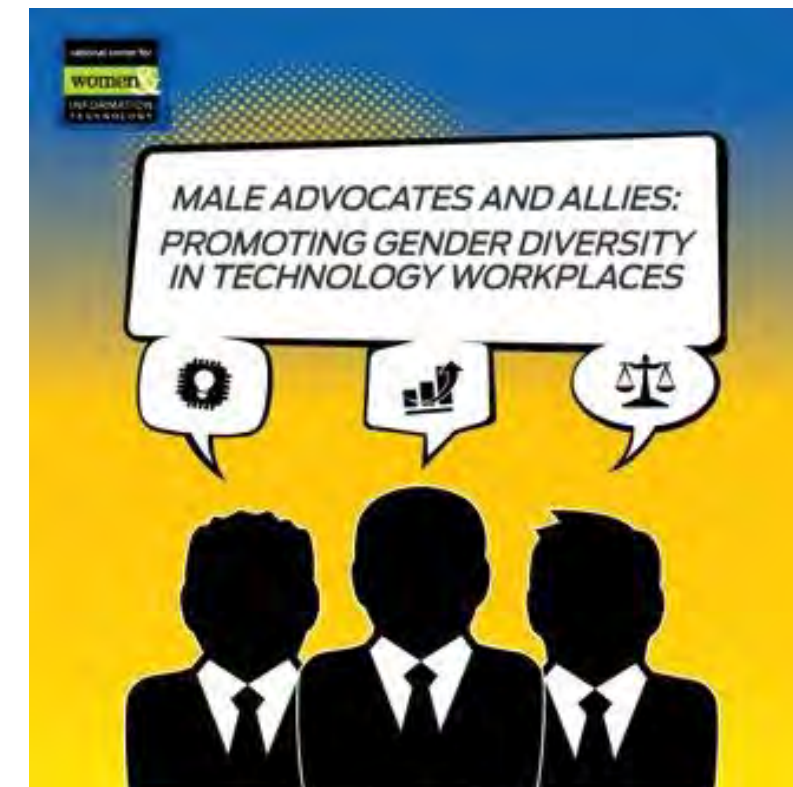
“Every person that becomes an advocate had to go through that door where they take the first risk and realize, ‘Oh, that wasn’t so bad.’”



Learn more at ncwit.org



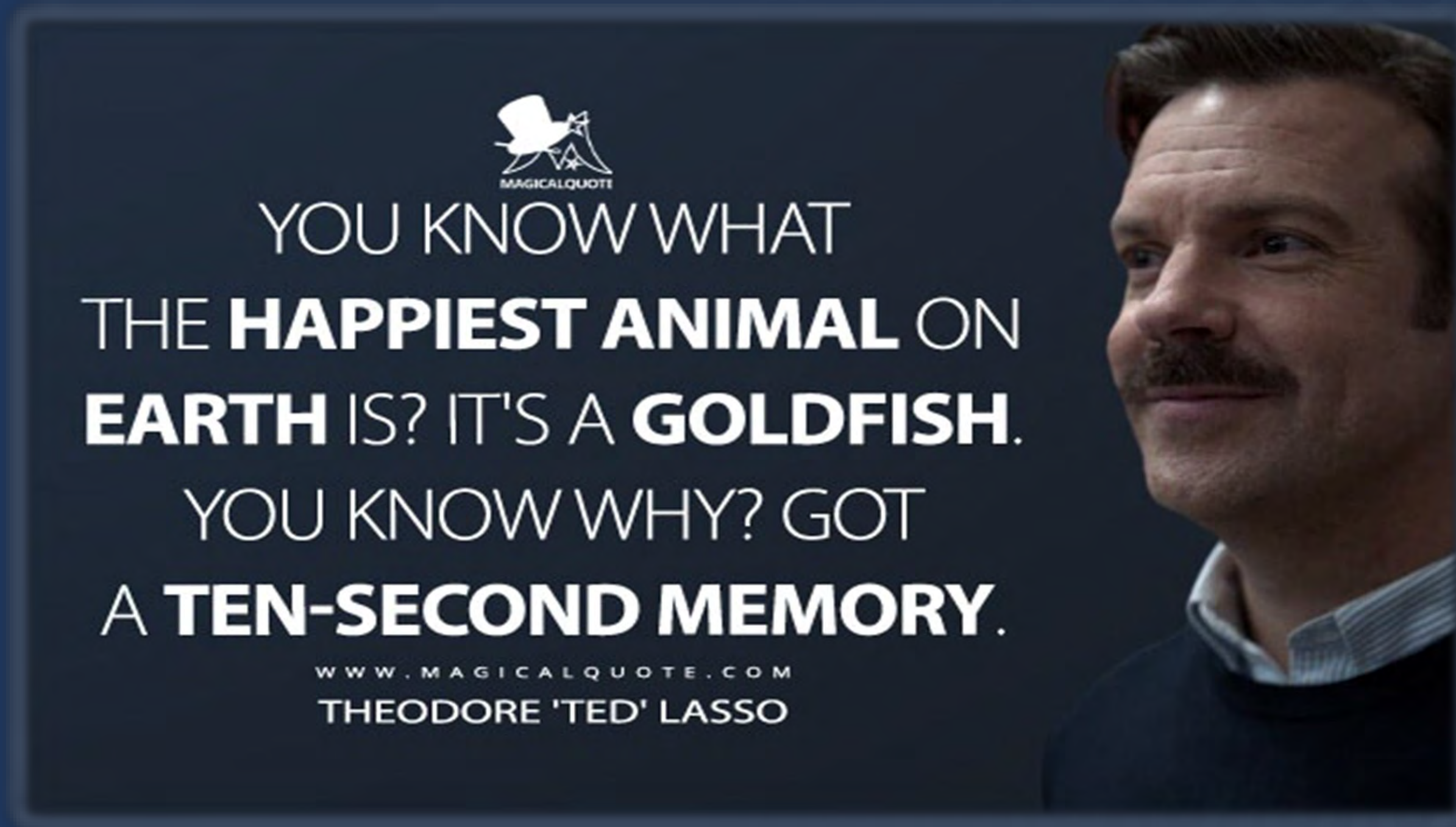
www.ncwit.org/ma-toolkit



www.ncwit.org/maleadvocatesindustry

**THE
IDEA YOU
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Take the Plunge



Why?

- Clark County School District is building young girls' interest and bridging the gender gap of Women in STEM and Technology careers.





20 YEARS OF TRANSFORMING STEM



My Why?

Feedback + Action

- Low % of Increase in Enrollment
- Ask Students Why?
- Make Adjustments

- Two Common Themes
 - Frequency of Access/Opportunity
 - Outside Support – Family, Parents, Caregivers, etc.



Making Changes

- Afterschool, Evenings, Weekends, and Summer Events
- Involving more Allies/Advocates to include Males and others that are involved in an individual life
- Learning as we go is okay..., failure may be required



Incorporating the idea of “Ally”

Thank you for supporting women in film, and empowering us to continue to fight for the future of women & girls who dream big.

Pioneers in Skirts is an inspiring film about the obstacles that can limit a woman's pioneering ambition, and what we ALL can do about it. The film is a 60-min multi-award-winning impact documentary made to encourage a healthy dialogue about the gender bias women confront in their careers, and what we ALL must do — both women & men — right now to change this.

pioneersinskirts.com



Thoughts...

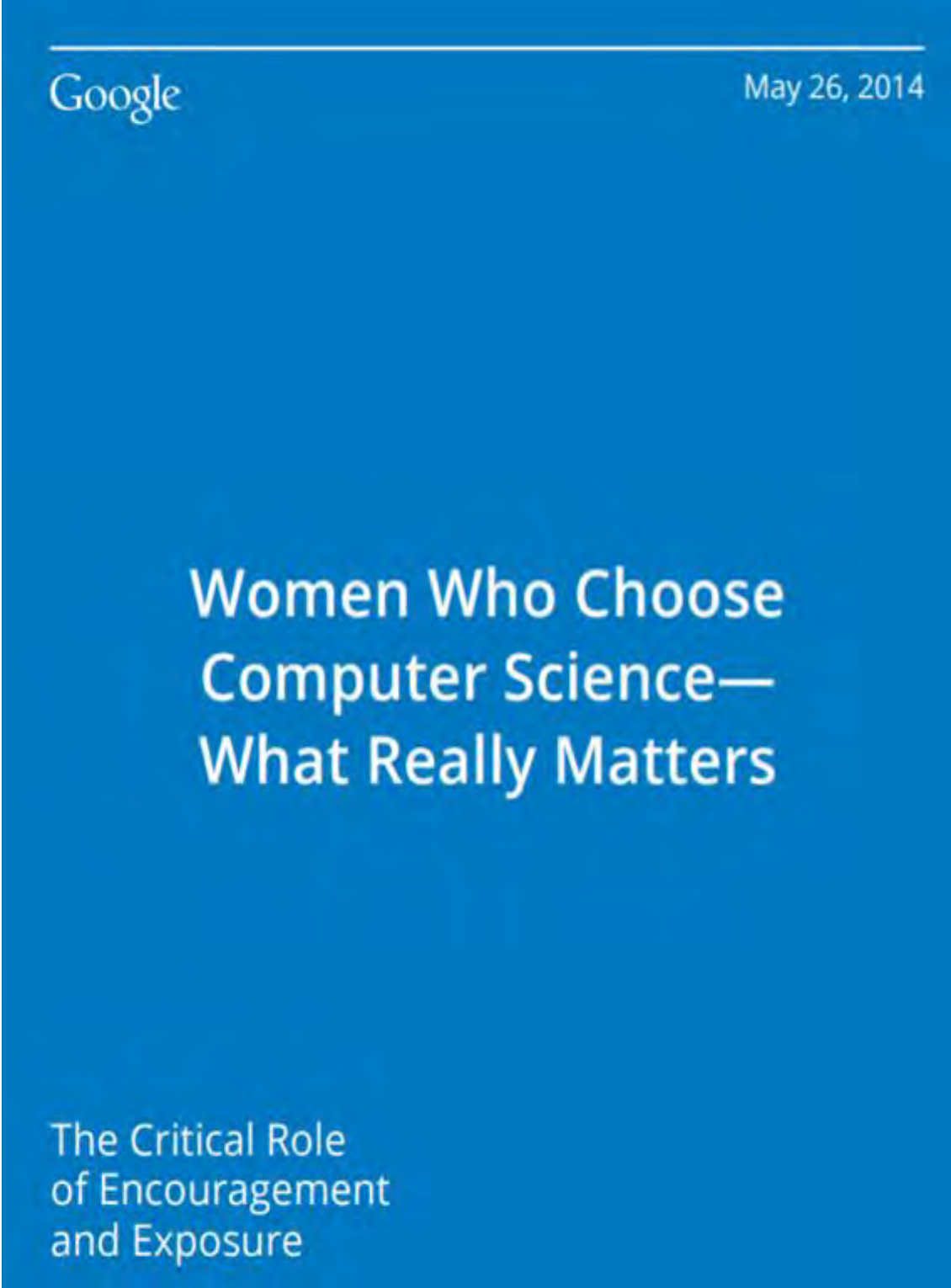
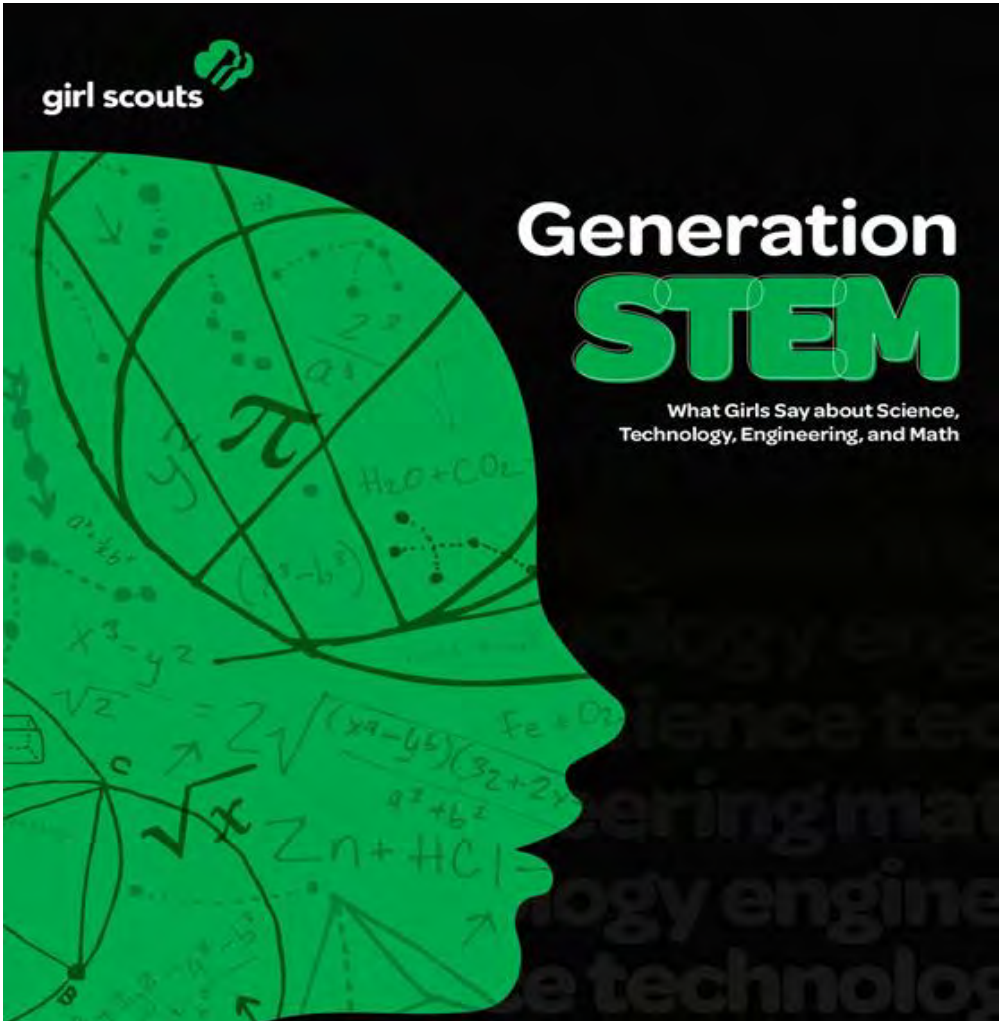
- Getting input, data, etc... is great
- However, without change and inclusion...
- It's hard to move forward.



My Inspiration



What Does the Research Say?



The Importance of Career Exposure

“...brief exposure to a woman scientist role model enhances female students’ identification with and interest in STEM.”



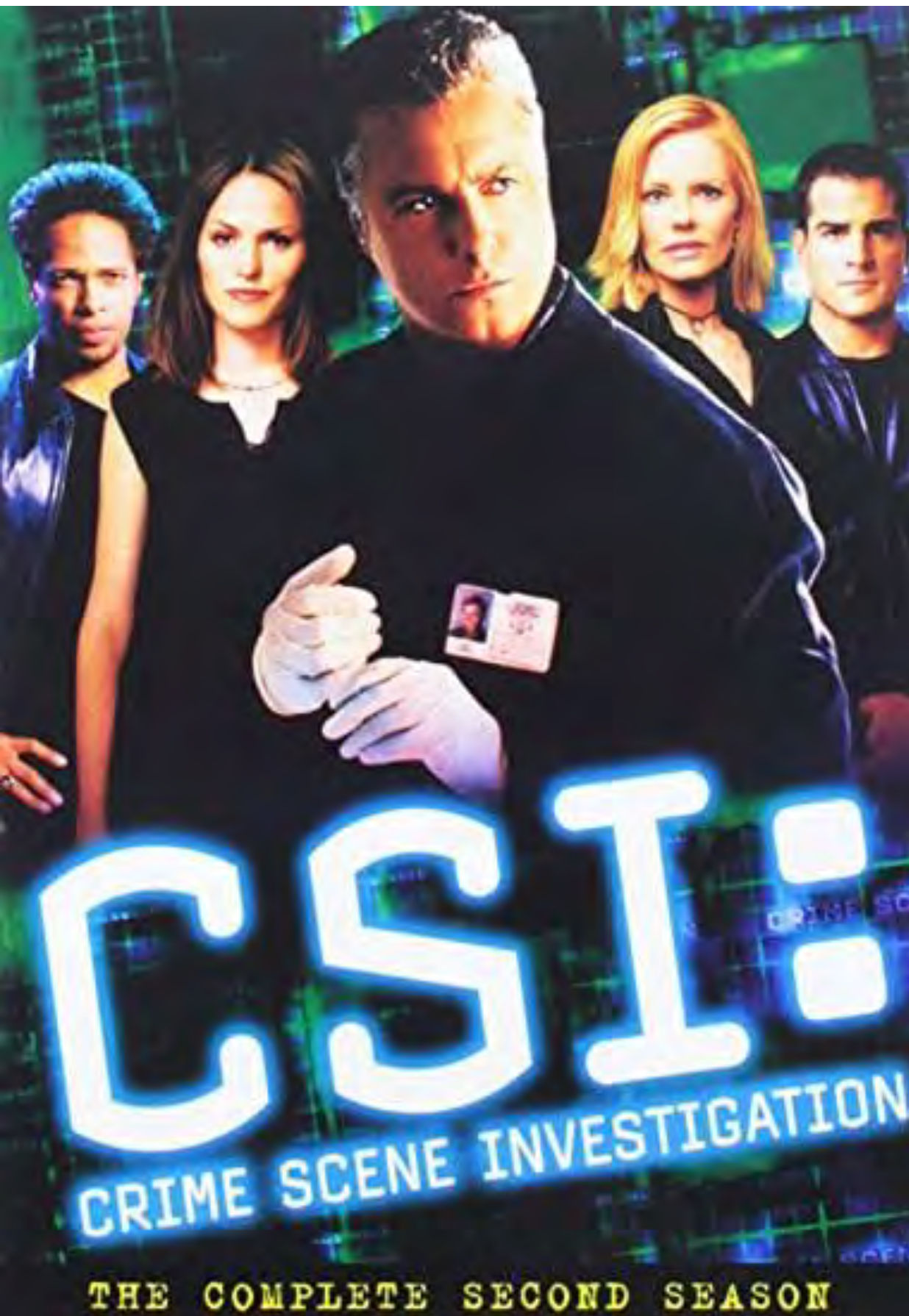
(Ramsey et al., 2013; Stout et al., 2011).



Early socialization provides the first departure point in gender disparities in engineering.



(Chanderbhan-Forde et al., 2012).



THE CSI EFFECT

Exposure to crime scene investigators through a national television show led to a 2000% increase in enrollment at universities in forensic studies.

Exposure to careers leads to increased interest in these careers.

Middle School and Perkins V for Career & Technical Education(CTE)



The Perkins V Act specifically requires career exploration in middle school:

- Section 135 (b) (1) says to “provide career exploration and career development activities through an organized, systematic framework designed to aid students, including in the middle grades, before enrolling and while participating in a career and technical education program, in making informed plans and decisions about future education and career opportunities and programs of study.”
- Learning Blade meets this need.



Learning Blade Missions

Students



Contextualized Learning for
Students, Tailored to their
Interests

Teachers



Reinforcing Academic Standard
while Providing Resources that
ANY Teacher can use

www.learningblade.com/States

“Missions” involve a societal challenge that interests students



12

“Missions”
that engage all
students

Mission	Challenge	Career Clusters
Car Manufacturing	Use modern manufacturing techniques to design and build a new concept car	Advanced Manufacturing
Dolphin Rescue	Help rescue rehabilitate an injured dolphin, including creating an artificial prosthetic tail	Biomedicine, Marine Science
Energy Sources	Evaluate alternative or upgraded energy sources for a city that currently has an old coal-fired power plant	Energy Production, Environment
Entrepreneurship	Set up a new business with a focus on entrepreneurship	Finance, Business
Flu Outbreak	How health and IT professionals can use data warehousing and analysis to predict flu outbreaks using GIS and social media data	Information Technology
Fresh Food	Consider methods to increase production of local foods in a community	Agriculture
Hack Attack	Learn about methods to create and protect website, apps and social media after a school’s website and media are hacked	Computer Science
Haiti Orphanage	Design and build an environmentally-sound orphanage for children left homeless by an earthquake in Haiti	Construction, Sustainability
Heart Surgery	Conduct heart surgery and therapy for a child with a heart defect; evaluate the use of artificial hearts or heart components	Medicine
Lightweight Aircraft	Design a lightweight and easily maintained aircraft for distant missions	Lightweight Metals Manufacturing
Rescue Robots	Explore technology used for robotics design, such as sensors, electrical circuits, industrial design and computers	Electronics, Computer Science
Transportation Congestion	Evaluate new transportation methods for a city that has a traffic congestion problem	Transportation

Engineering Careers in Learning Blade



Engineering Careers

Agricultural Engineer
Automotive Engineer
Biomedical Engineer
Civil Engineer
Environmental Engineer
Industrial Engineer
Logistics Engineer
Mechanical Engineer
Nuclear Engineer
Power Engineer
Transportation Engineer

Intro to Engineering Careers

Tools

- Designing Electric Circuits in a Home (M)
- Designing an Orphanage (M)
- How a Nuclear Power Plant Works (Sc)
- Mechanical Advantage & Efficiency (M)
- Stand your Ground with Surveying (M)
- What is Power and Energy? (Sc)
- Why Waste Energy- Energy from Animal Waste (M)

Teammates

- A Day in the Life of a Mechanical Engineer (E)
- A Day in the Life of an Automotive Engineer (E)
- A Day in the Life of an Environmental Engineer (E)
- Female Firsts in Computer Engineering (SS)
- What is a Biomedical Engineer? (SS)
- What is an Industrial Engineer? (SS)

Interactive lessons introduce careers while reviewing academics.



Getting It Under Control

Waves on the Electromagnetic Spectrum

All kinds of electromagnetic waves exist on what is called the electromagnetic spectrum, shown here. Longer wavelengths have longer spaces between the waves.

Based on the chart shown, which of these kinds of waves have the shortest wavelength?



- Radio waves
- Infrared waves
- Visible light
- Gamma rays

Submit Answer

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V12.6



A Day in the Life of an Electrical Technician

A Day in the Life of an Electrical Technician

Electrical technicians are highly trained and typically specialize or work with only a few varieties of machine or robotics. They work on



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done

A Day In the Life of a Marine Biologist

Meeting Dr. Sheffield

Knowing that you need a dolphin expert on your team, you visit Dr. Maria Sheffield, a local marine biologist working at a marine preservation center. After introducing yourself, you explain how you found an injured dolphin on the beach, that you're assembling a team to help the dolphin, and that you were wondering if she could help. Dr. Sheffield seems very interested in what you're doing and begins to explain what a marine biologist does.

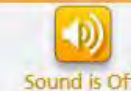


Marine biologists study the life of all marine organisms in oceans and other saltwater environments. Many marine biologists work at aquariums, wildlife centers, marine animal reserves or universities to help care for and study marine animals. As she explains her experience treating cases like this, you begin to realize how her experience in dolphin anatomy, knowledge of their natural habitat and diet would be a valuable asset to your team.

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V12.5



Exit



Exit



Learning Blade Statewide Implementations



Arkansas

Arkansas Department of Education, & The Arkansas Public School Resource Center



Missouri

Missouri Department of Elementary & Secondary Education (DESI)



South Carolina

South Carolina Department of Education, Office of Career & Technical Education



Louisiana

Louisiana Department of Education



Alabama

Department of Education Office of Career & Technical Education & Alabama Works



Tennessee

Tennessee Chamber of Commerce



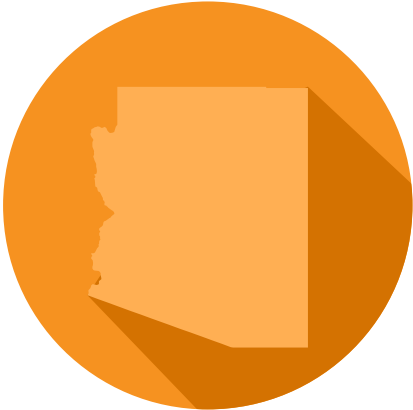
Idaho

Idaho STEM Action Center



Mississippi

University of Southern Mississippi, Mississippi Department of Education



Arizona

Office of the Governor Doug Duvey, AZonTrack, & Generation Schools Network

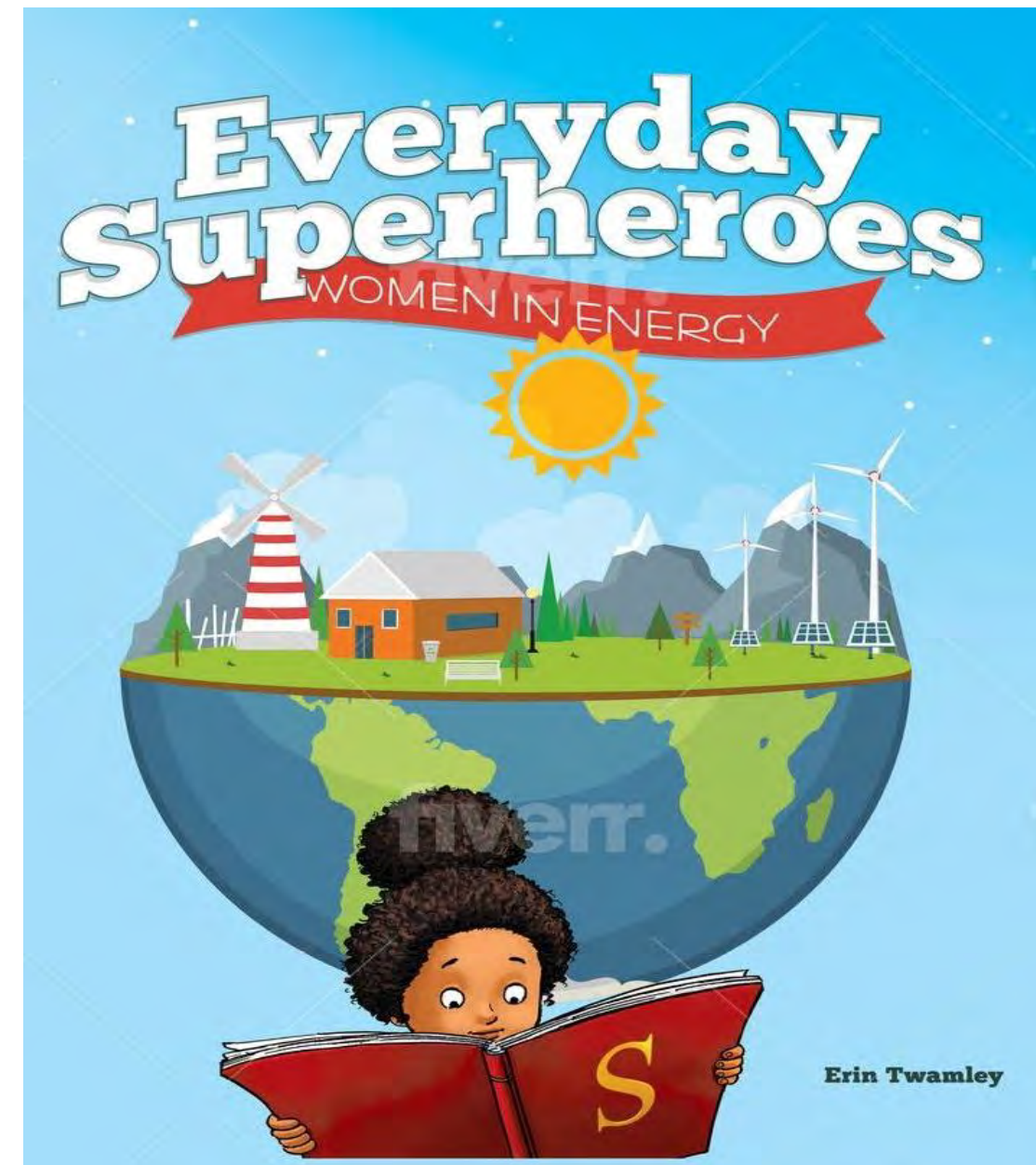
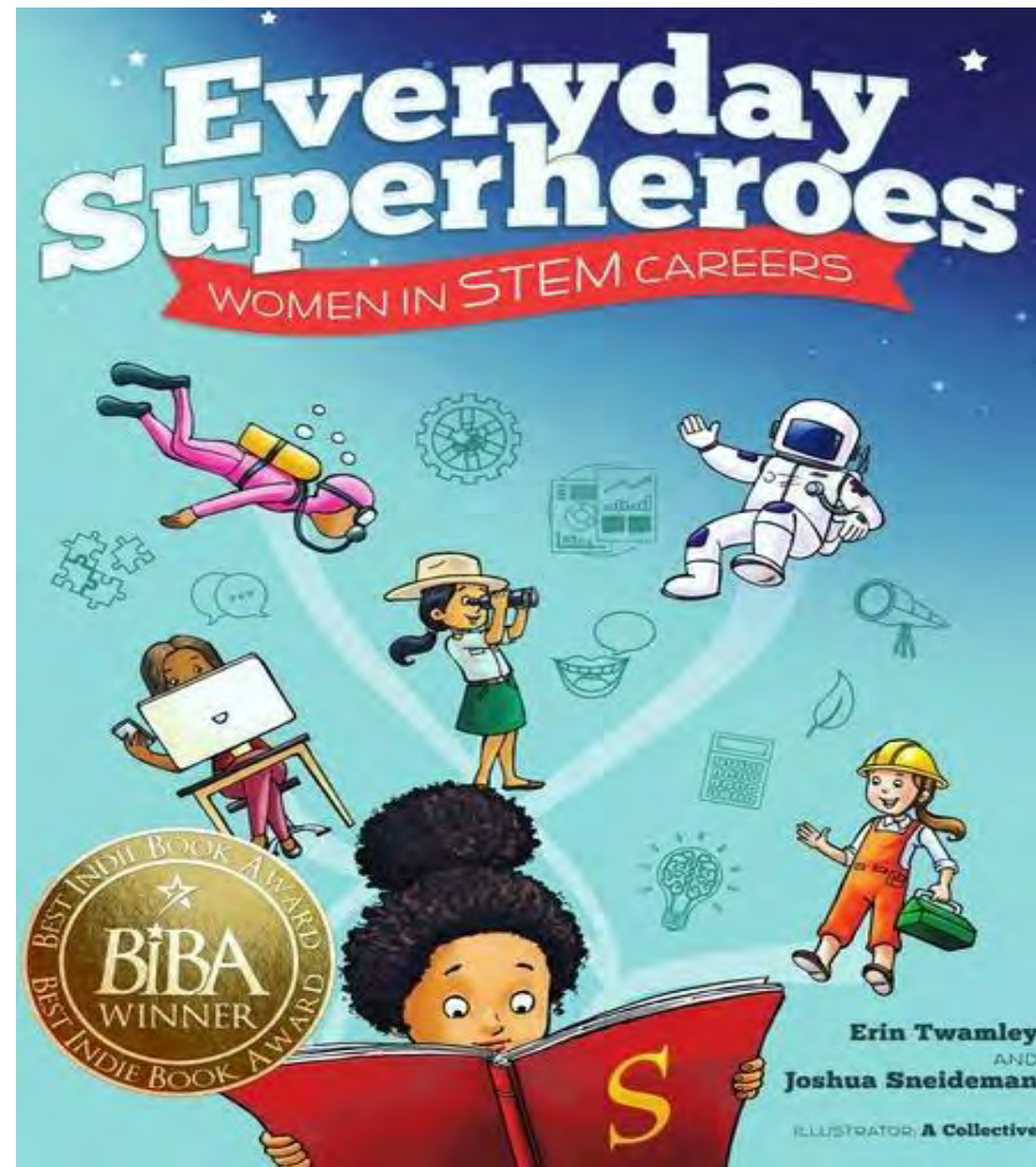


New Hampshire

New Hampshire Department of Education

www.learningblade.com/States to get your free license

A Book Series to Inspire Girls in STEM



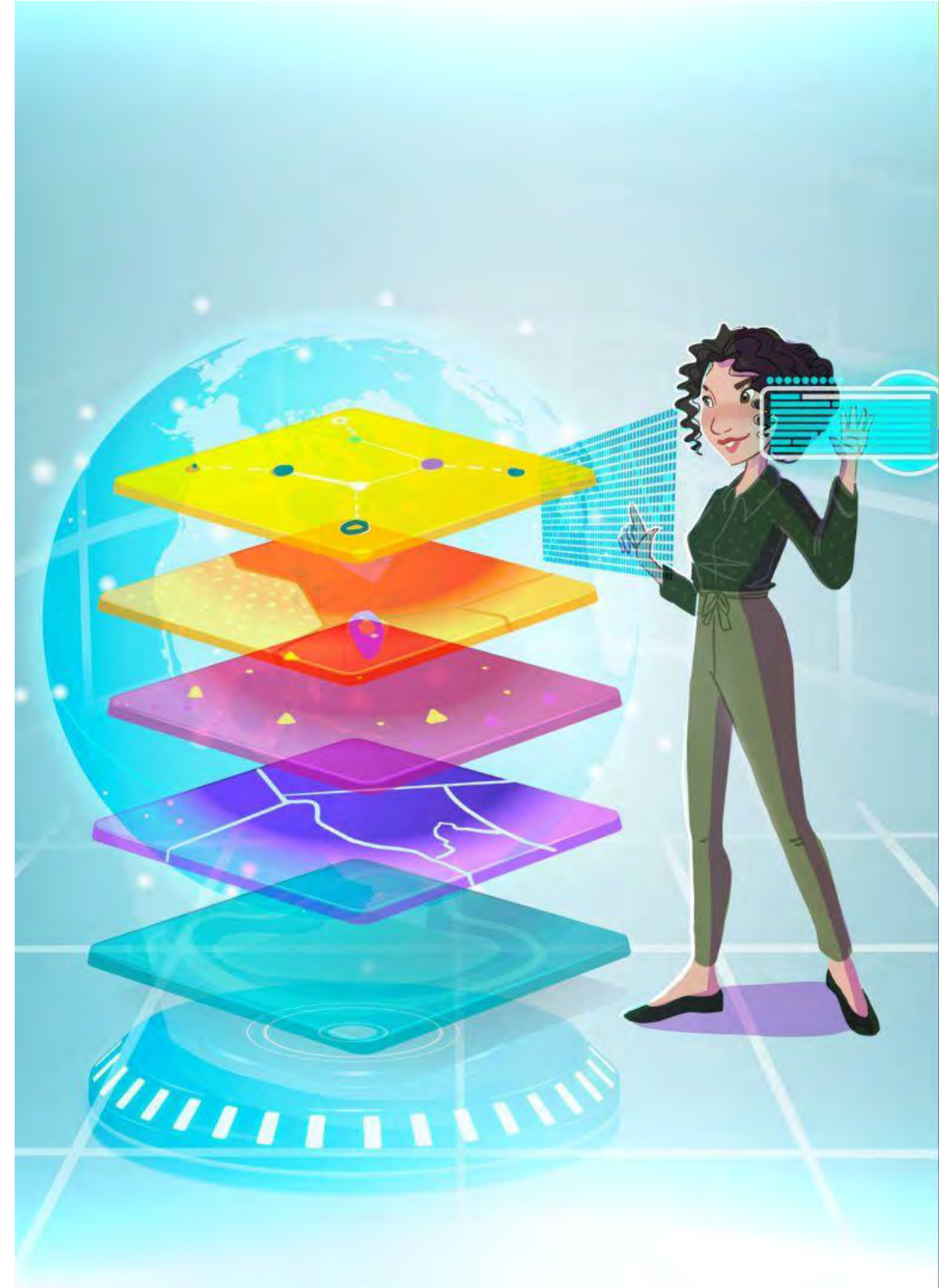
<http://stemsuperheroes.com/shop/>



Dr. Sherilyn Williams-Stroud
**GEOLOGIST, CARBON CAPTURE &
 SEQUESTRATION**

Illinois State Geological Survey

www.stemsuperheroes.com



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MECHANICAL ENGINEER
Oklahoma Gas & Electric
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Mackenzie Gillan
**POWERLINE
TECHNICIAN**
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Q & A

We'll take questions from the chat and from people using the 'hand raise' function.





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Learn more at ngcproject.org