WHEN CURIE MEETS CASSATT~~ EDP GOES GLOBAL

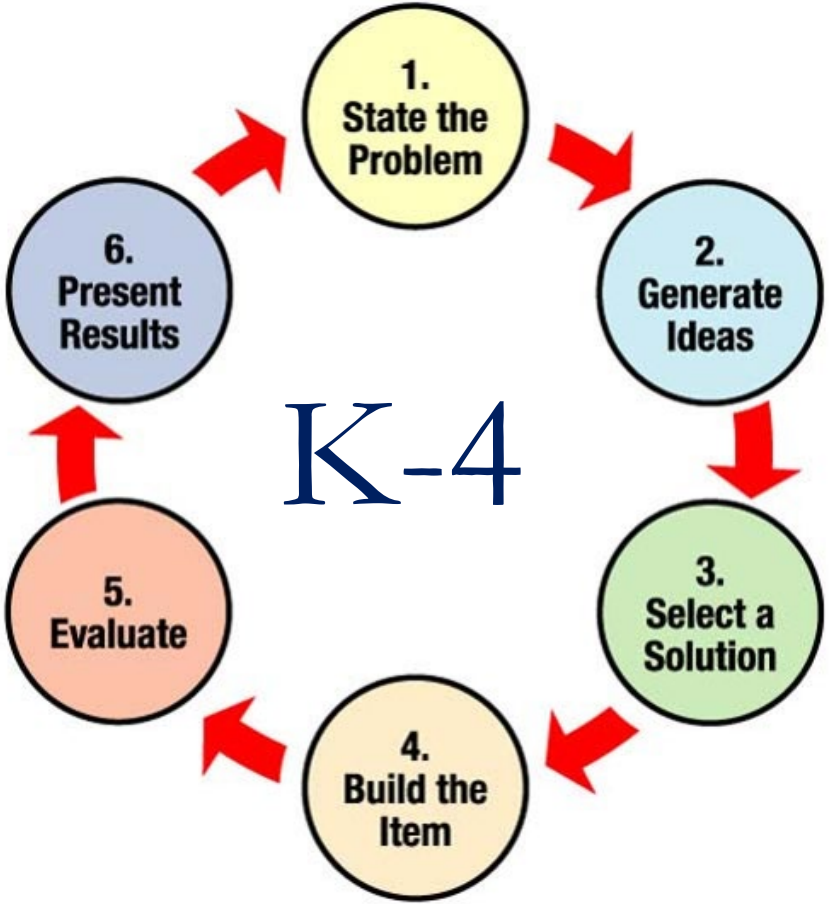
Dr. Helen Teague ~ Global Education Conference, 2019

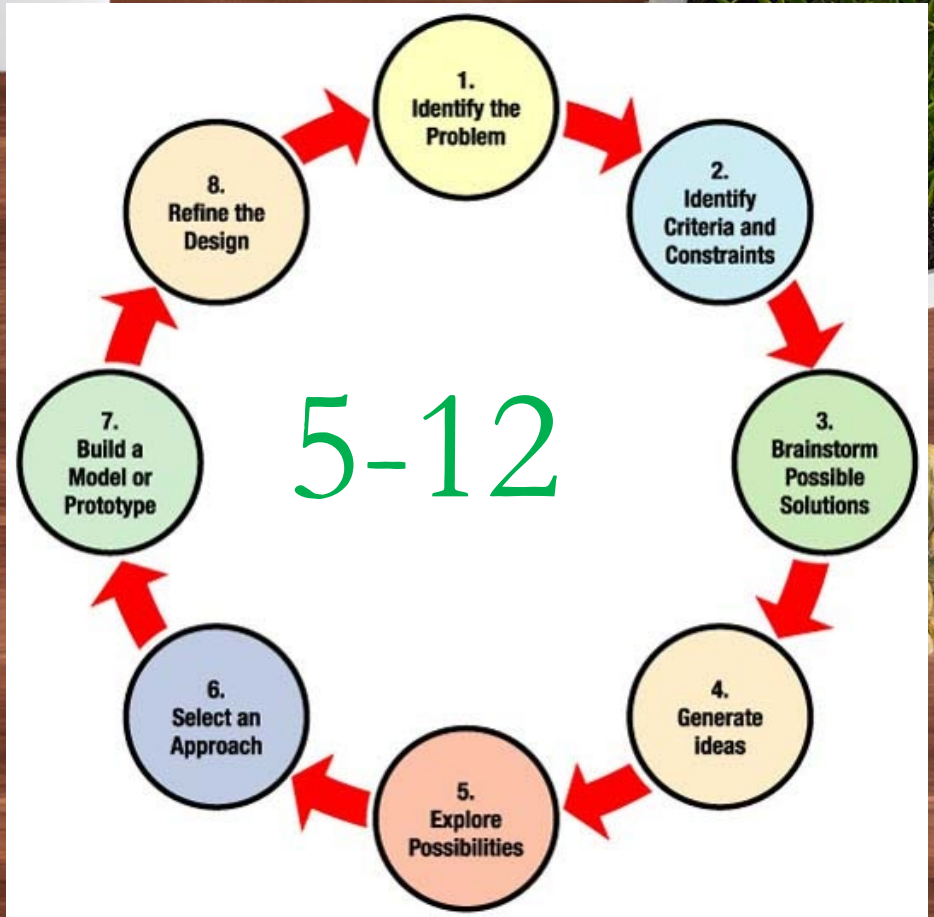
Dr. Helen Teague https://www.globaleducationconference.org/profile/HelenTeagueEdD

Session Abstract: Visit a virtual collaborative discussion spanning time and space between Marie Curie, Mary Cassatt, Vijay Amritraj, Rene Descartes, Gladys West, Hedy Lamarr, and John Urschel. The Engineering Design Process (EDP) connects these Engineering superstars from different countries, vocations, and historical eras. Join virtually and collaborate in real time as we investigate digital and mobile resources to catalyze EDP in Science, Technology, Engineering, Arts, and Math. Want to learn more about EDP and how can you leverage the ideas of these Engineering Superstars in your own online, global collaborative? This session is for you! Receive a digital resources list, annotated research document, lesson plan links, a case study, and an implementation blueprint. At the conclusion of the conversation you will be ready to infuse EDP, creativity, and STEAM in your F2F and online lessons. You will be ready to lead the conversation at your school! Session Hashtag: #globaled19

https://tinyurl.com/globaled19Teague

Dr. Helen Teague





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Essential Questions: What connects these engineers from different vocations and historical eras? Can you harness their EDP mindset in your classroom?

How can you leverage their ideas in your school?

Join Marie, Mary, Vijay, Rene, Gladys, Hedy, and John virtually and collaborate in real time as we discuss the creativity and socio-cultural learning theory involved in Science, Technology, Engineering, and Math. Learn research-based practices based on the latest research on interdisciplinary creativity.

Session Hashtags: #GlobalEd19 #CurieMeetsCassatt - Please tweet your ideas!

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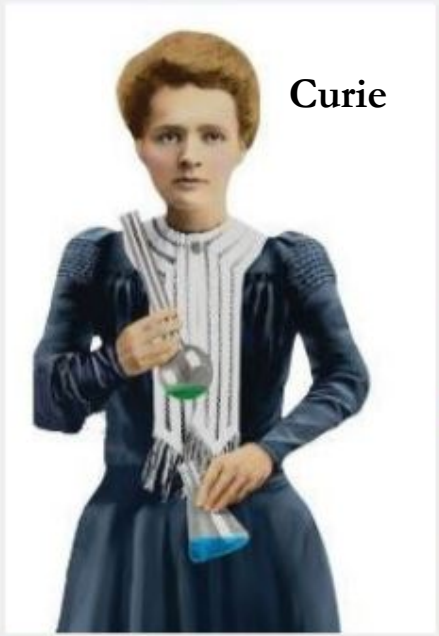

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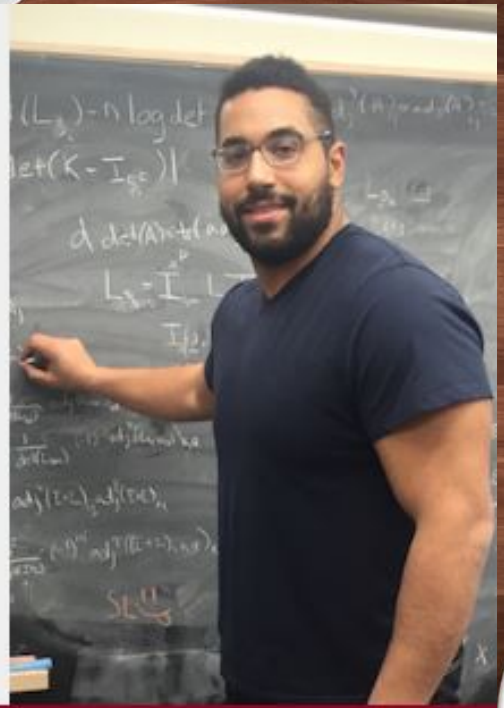


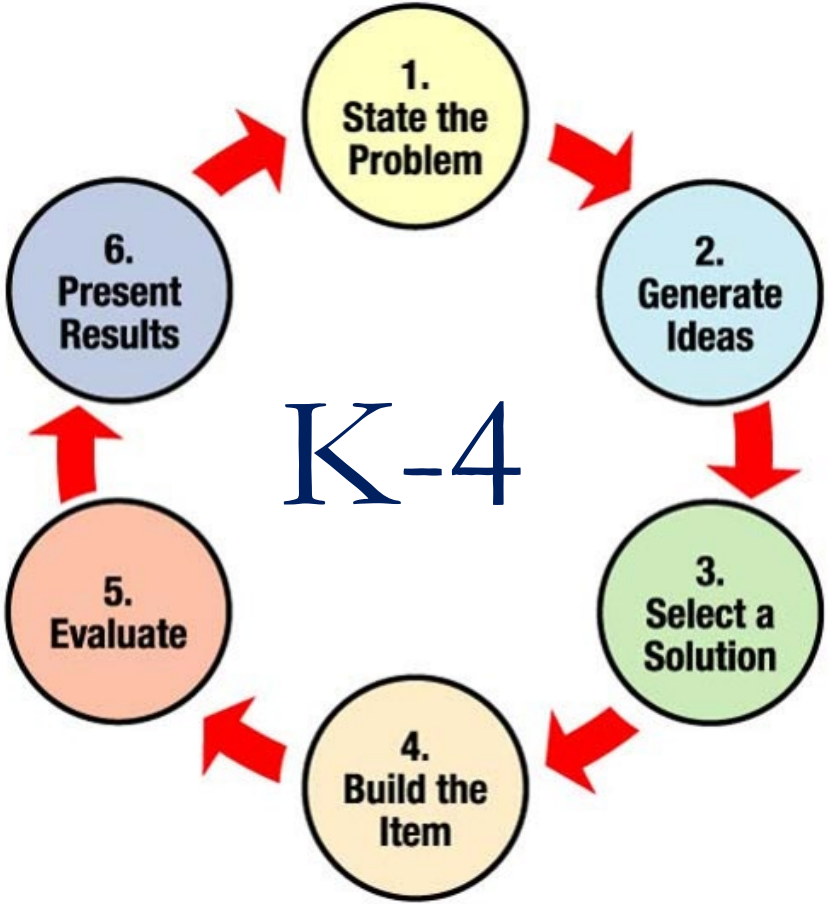
Who's Who? Can you match the name with the face of Marie Curie, Gladys West, Vijay Amritraj, Mary Cassatt, Hedy Lamarr, Rene Descartes, & John Urschel ?

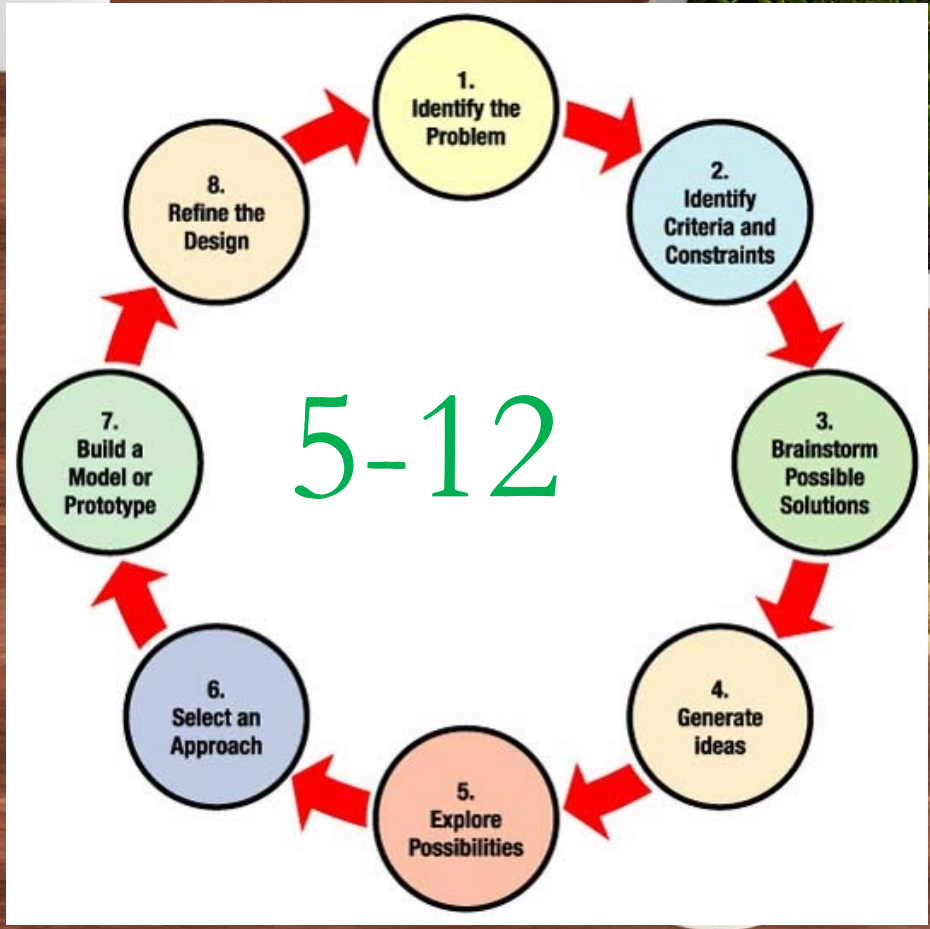
What Skills /Aptitudes / Attributes Do They Have In Common with EDP? Join the Conversation!

PollEv.com/hteague500 or activate the QR code

A recurring topic in the conversations with scientists and engineers was that artscience collaboration helped them to initiate or train lateral thinking processes. Lateral thinking can be understood as the cognitive ability of individuals that influences creativity. It has been discussed extensively as being important for individual creativity and a major contribution to groups in creative processes (Gibson 1993). It describes the ability to make connections between ideas and seemingly unrelated knowledge. This enables, for example, problem-solving in unconventional ways or project ideas that combine not-obviously-related topics. Artscience collaboration can inspire to leave routine tracks and to make unusual connections, and it gives space to do so.

Schnugg, C. (2019). Creating ArtScience Collaboration: Bringing Value to Organizations. Springer and Google Books.





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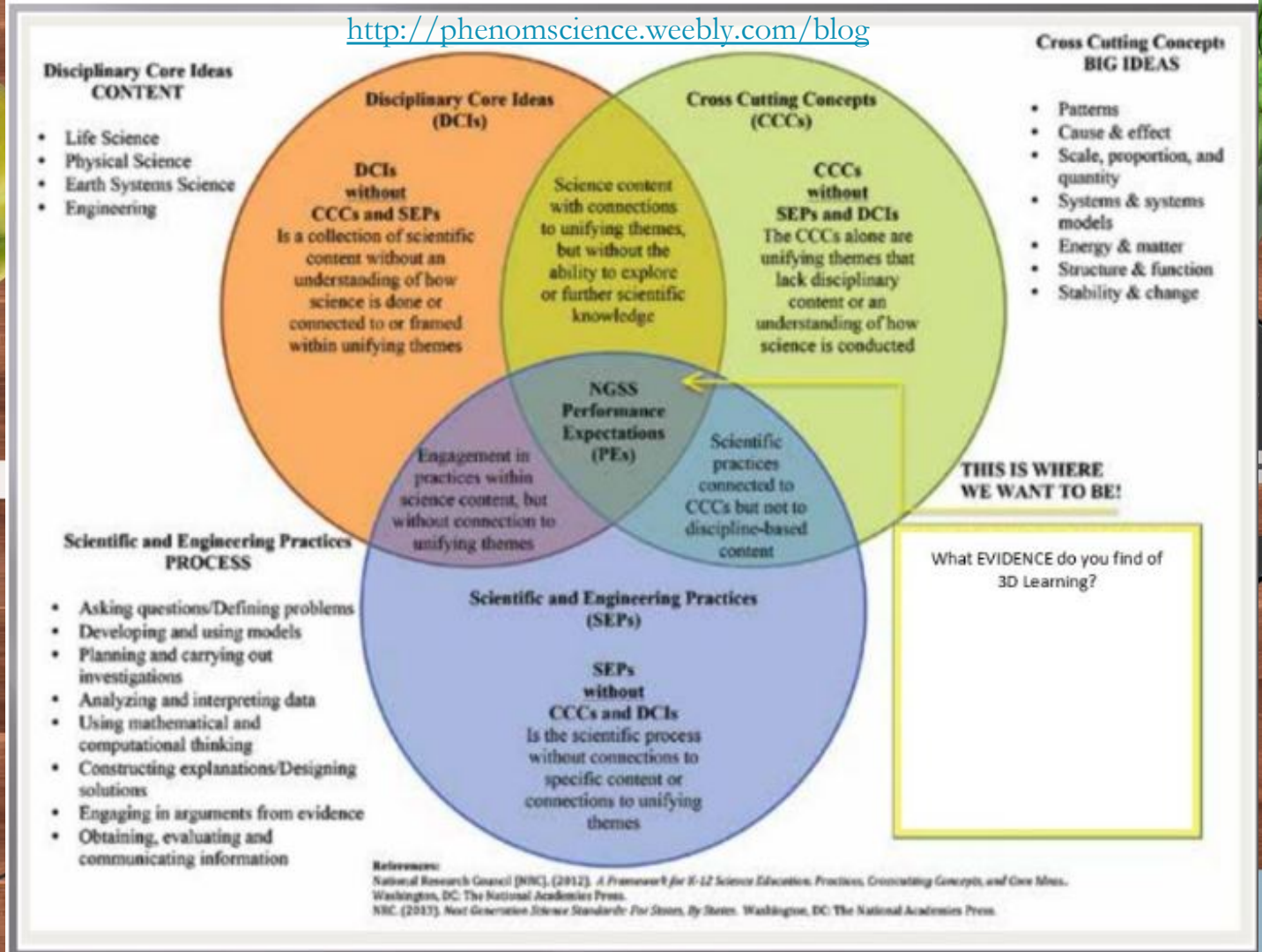
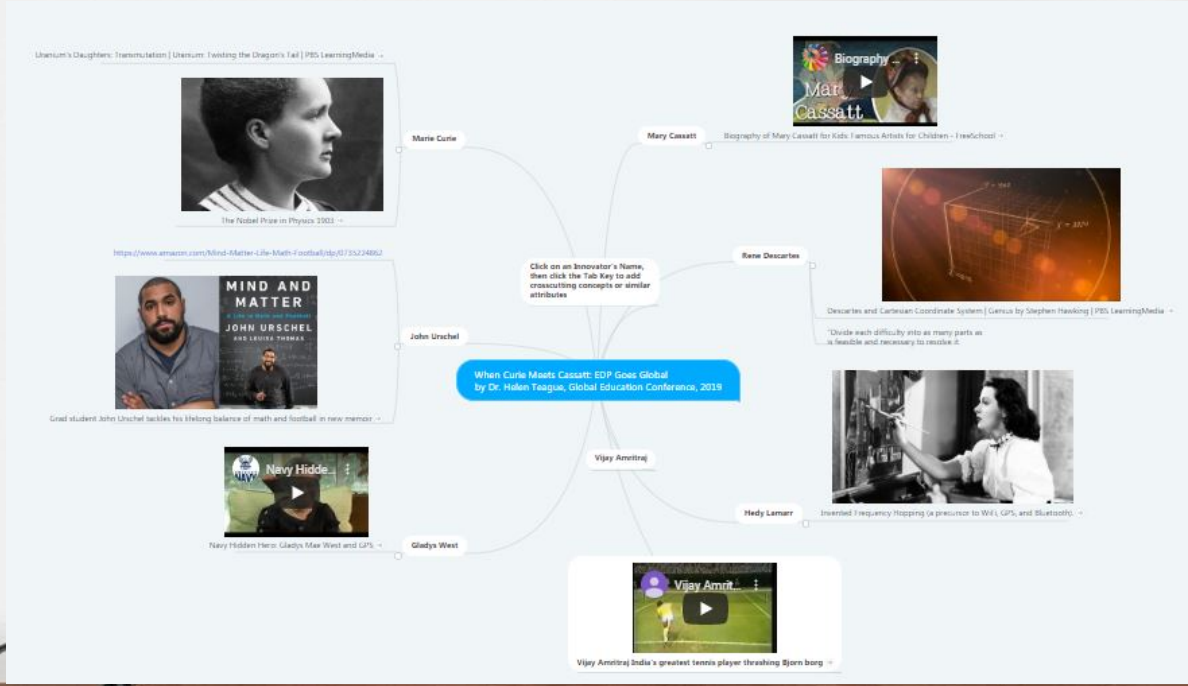
http://phenomscience.weebly.com/blog



References:
National Research Council [NRC]. (2012). *A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas*. Washington, DC: The National Academies Press.
NRC. (2013). *Next Generation Science Standards: For States, By States*. Washington, DC: The National Academies Press.

Engineering Design Process

> https://tinyurl.com/GECEDP7



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Integration Ideas

Ideas:

- *EDP Design Challenges
- *STEAM/STEM captions
- *EDP Trading Cards
- *EDP 3D
- *Games
- *EDP Genius Hour
- *EDP Global Meet-up
- *EDP Video How-to

Even a 5-minute EDP interval is productive.

STEAM

{Be sure to answer in the form of a Question.}

Dr. Gladys West is the mathematician/programmer/ inventor for this satellite-based radio-navigation system with 31 satellites in orbits 12540 miles above Earth...

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EDP Catalyzers / EDP Connections

What is it?	Examples	Why Is It Important?
Crosscutting Concepts	https://stemforall2019.videohall.com/presentations/1529	
Intersection of Learning, Culture and Collaboration	https://stemforall2017.videohall.com/presentations/942	
Teachers' Role: Participatory Teaching	https://stemforall2016.videohall.com/presentations/822	
Reflection		

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Resources Our Innovators

Marie Curie: (1867-1934): Link 1 Link 2 addressing Radium

Mary Cassatt: (1844-1926): Link 1

Vijay Armitrage: Link 1

Rene Descartes (1596-1650): Link

Hedy Lamarr (1914-2000): Link

John Urschel (1991 – present): Link 1 Link 2

Gladys West- (1930- present): Link 1 Link 2

Resources

Teach Engineering:
https://www.teachengineering.org/k12engineering/designprocess

PBS Learning Media: https://www.pbslearningmedia.org/

NSF STEM for All Video Showcase 2016-2019:
https://stemforall2019.videohall.com/ (Adjust the year to see more)

NGSS: https://www.nextgenscience.org/

Crosscutting Concepts: https://www.nap.edu/read/18290/chapter/13

Phenomenal Science: http://phenomscience.weebly.com/blog

Teach UNICEF: https://sharemylesson.com/partner/teachunicef

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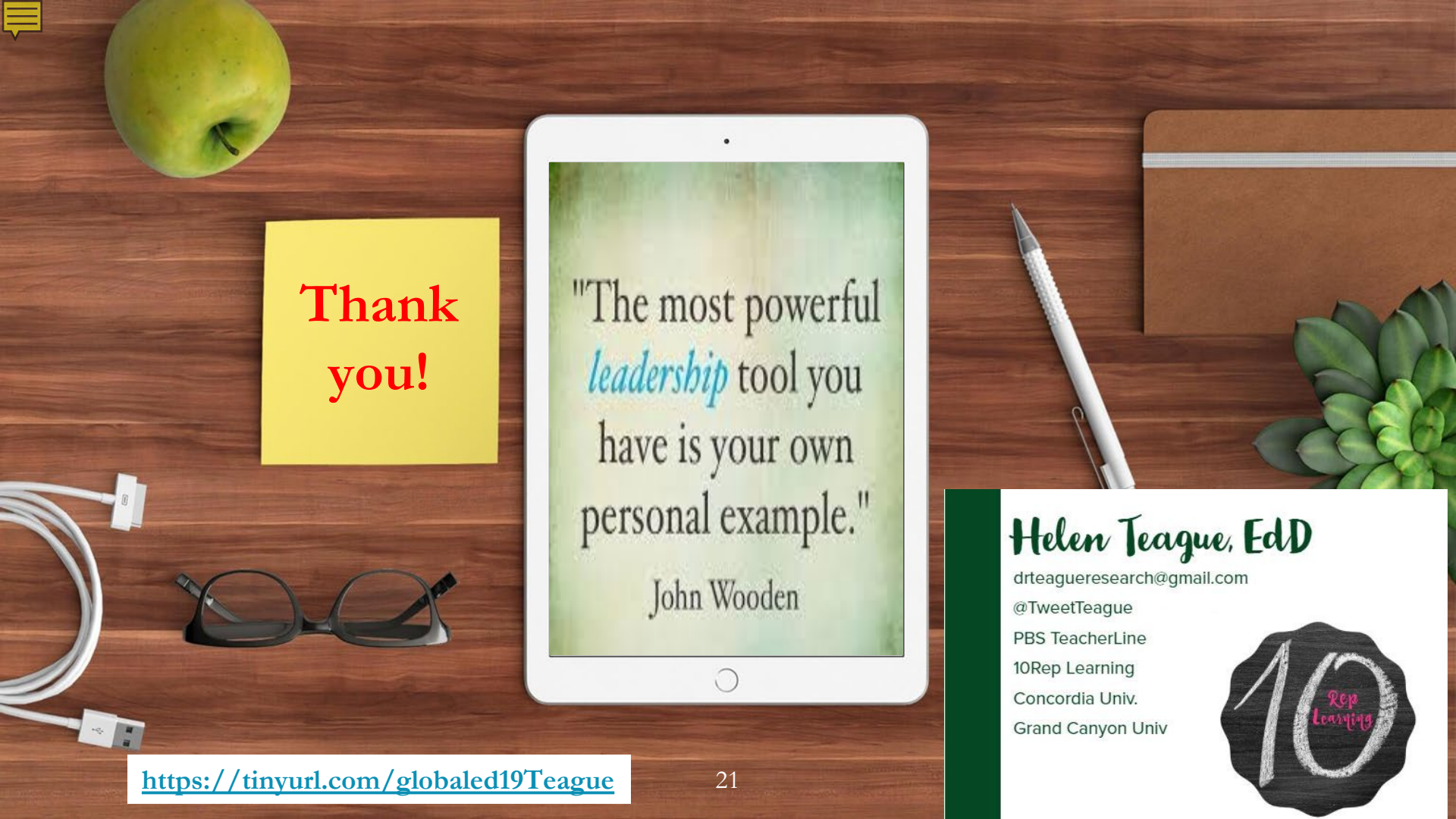

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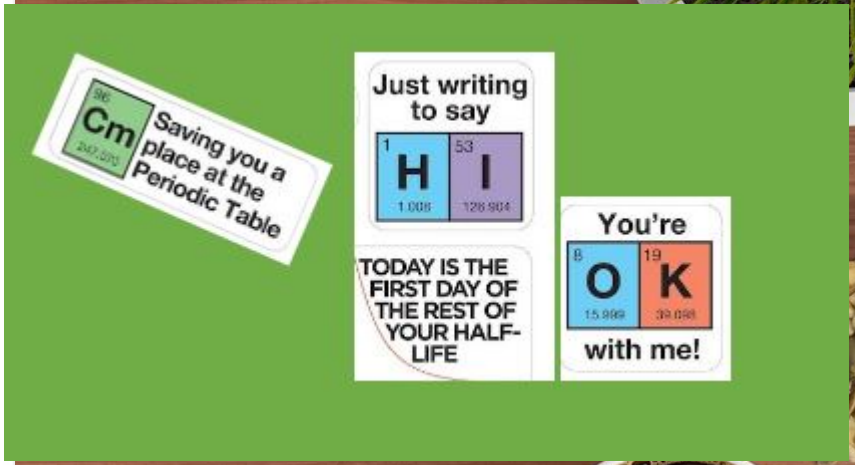

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Thanks!