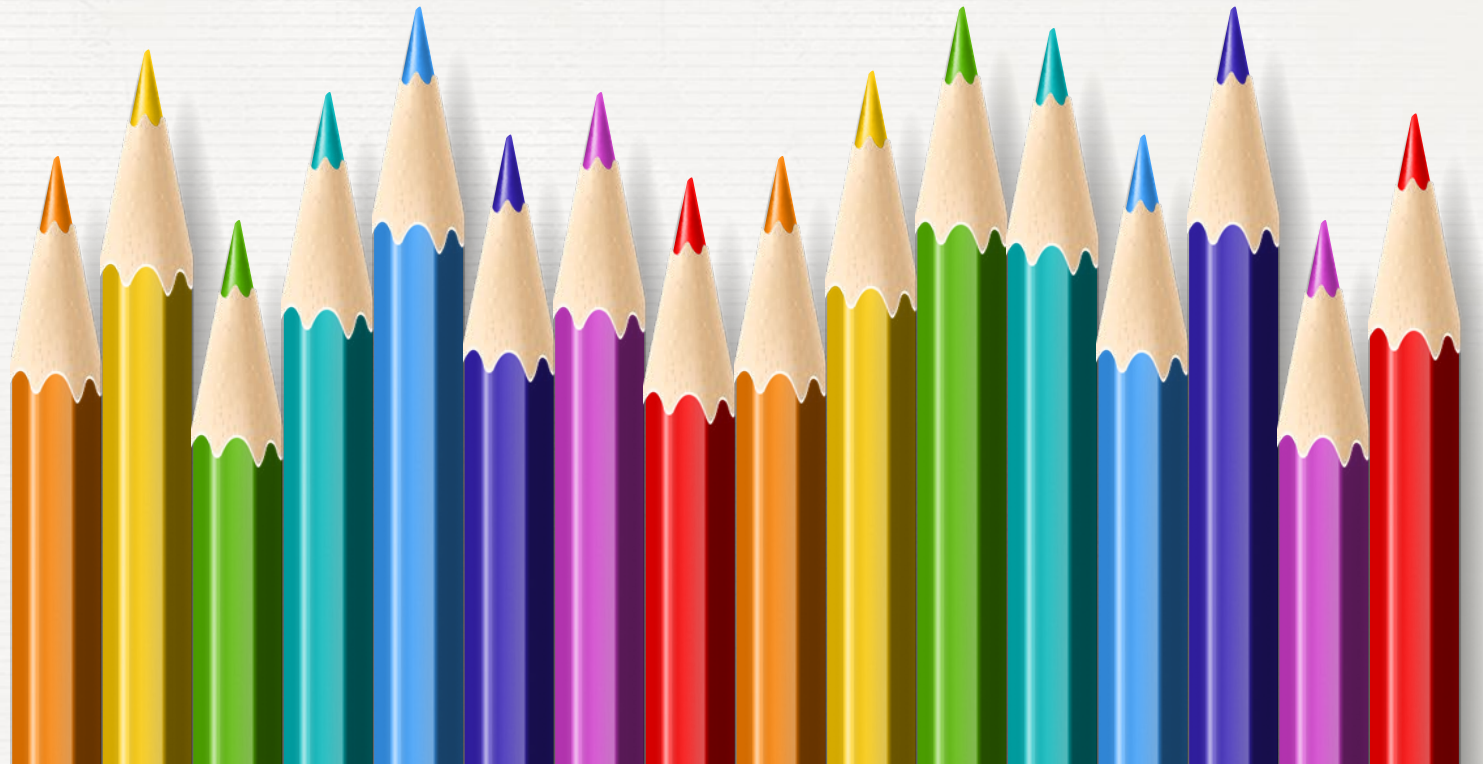


# STEM Experiences for All Children at Home

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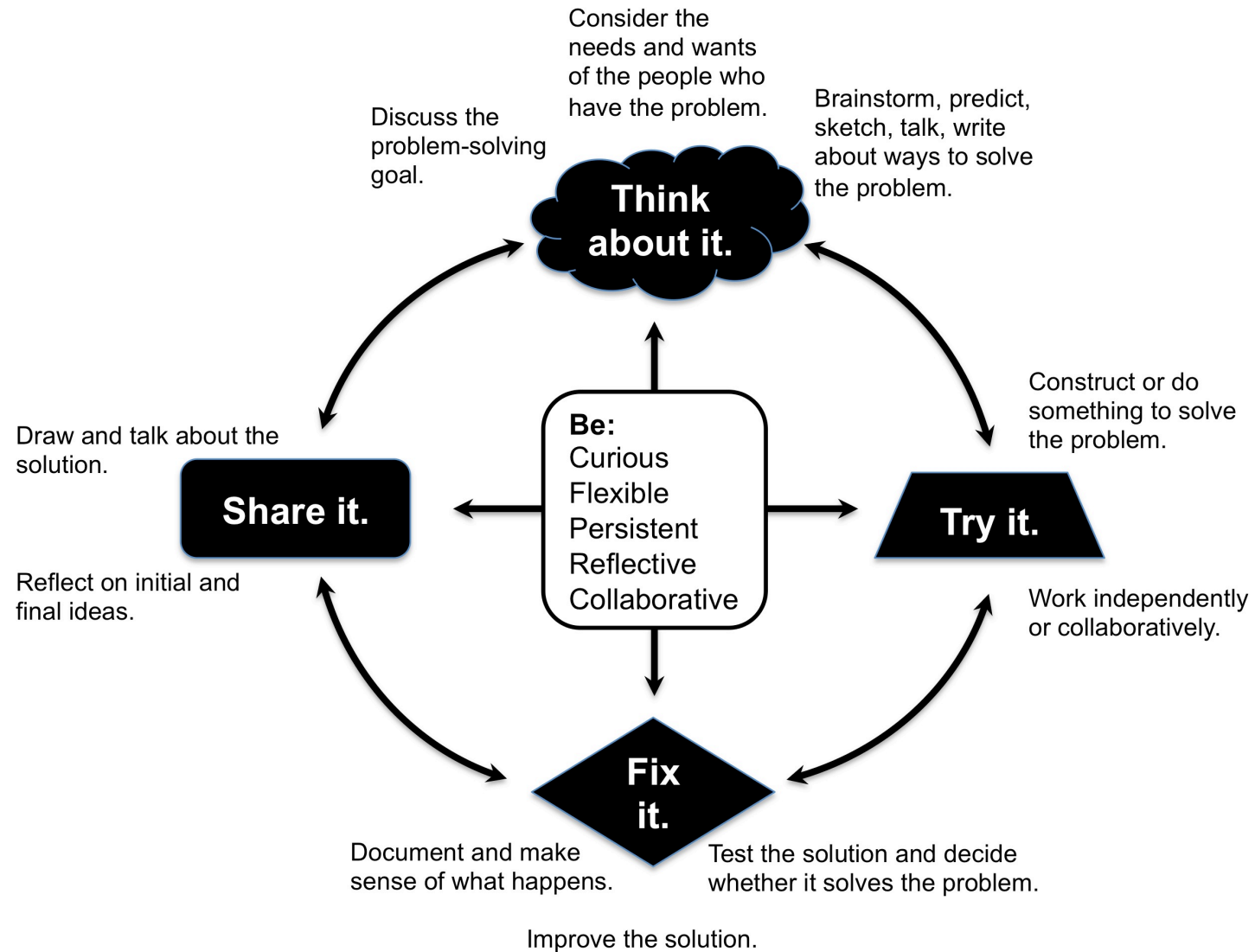
Angi Stone-MacDonald  
University of  
Massachusetts Boston



# Webinar Tips

- 1 Close any applications that use bandwidth or resources on your device
- 2 To submit a question, click “Questions” in the webinar panel and type in your question
- 3 To minimize the webinar panel, click the orange arrow in the upper left of the panel
- 4 If you experience computer audio issues, you can switch to “Phone call” in the “Audio” section of the webinar panel and use the dial-in information provided

# Engineering Design



# Two Phases of Exploration

- x **Open Exploration:** Initial experiences with the relevant science that build a foundation
- x **Focused Exploration:** more specific investigation of key science concepts that emerge from children's interests and questions in Open Exploration





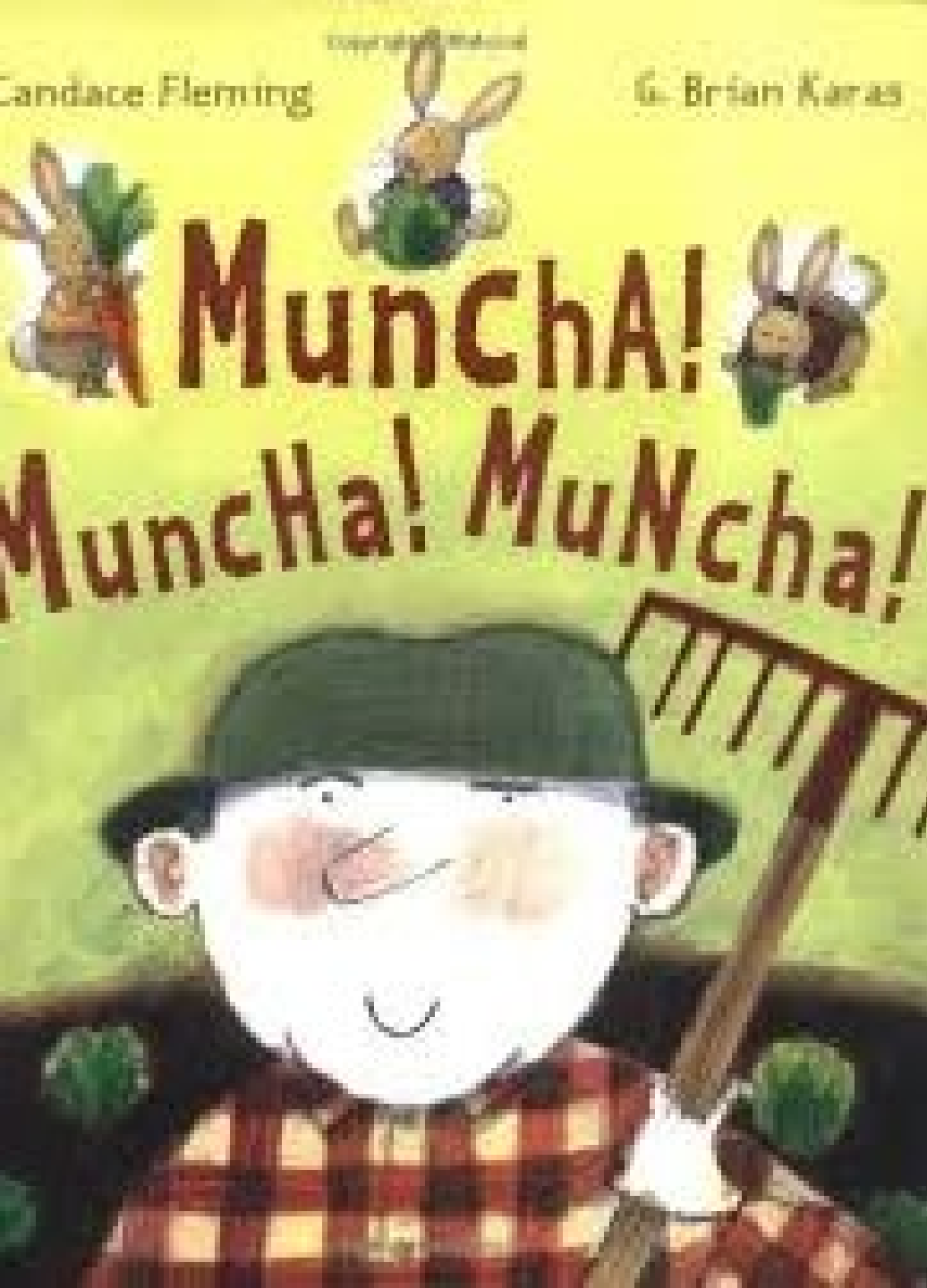


# UDL Key Questions for STEM Activities

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1. Are you providing several different materials of the same type to explore the concept? (e.g. several different thickness of balls, several different sizes and textures of balls)
2. Do children have several opportunities to try and repeat the activity?
3. Are children able to use more than one sense to explore the activity or concept?
4. Are you using media to document the children' learning? Are you showing the children' the pictures and recalling the activities?
5. Are the materials accessible with scaffolds based on the mobility of the children?
6. Are you incorporating preferred items, reinforcers, or adults to support the child?
7. Are you asking the child to complete the activities when they are well rested and fed?
8. Do children have the necessary supports for communication about the activity?
9. Is the environment set up with limited distractions and choices?
10. Are you using multiple modes of assessment to assess the product, process, and thinking skill development, such as photos, checklists, and discussion with the child?





# Muncha! Muncha! Muncha!

By Candance Fleming

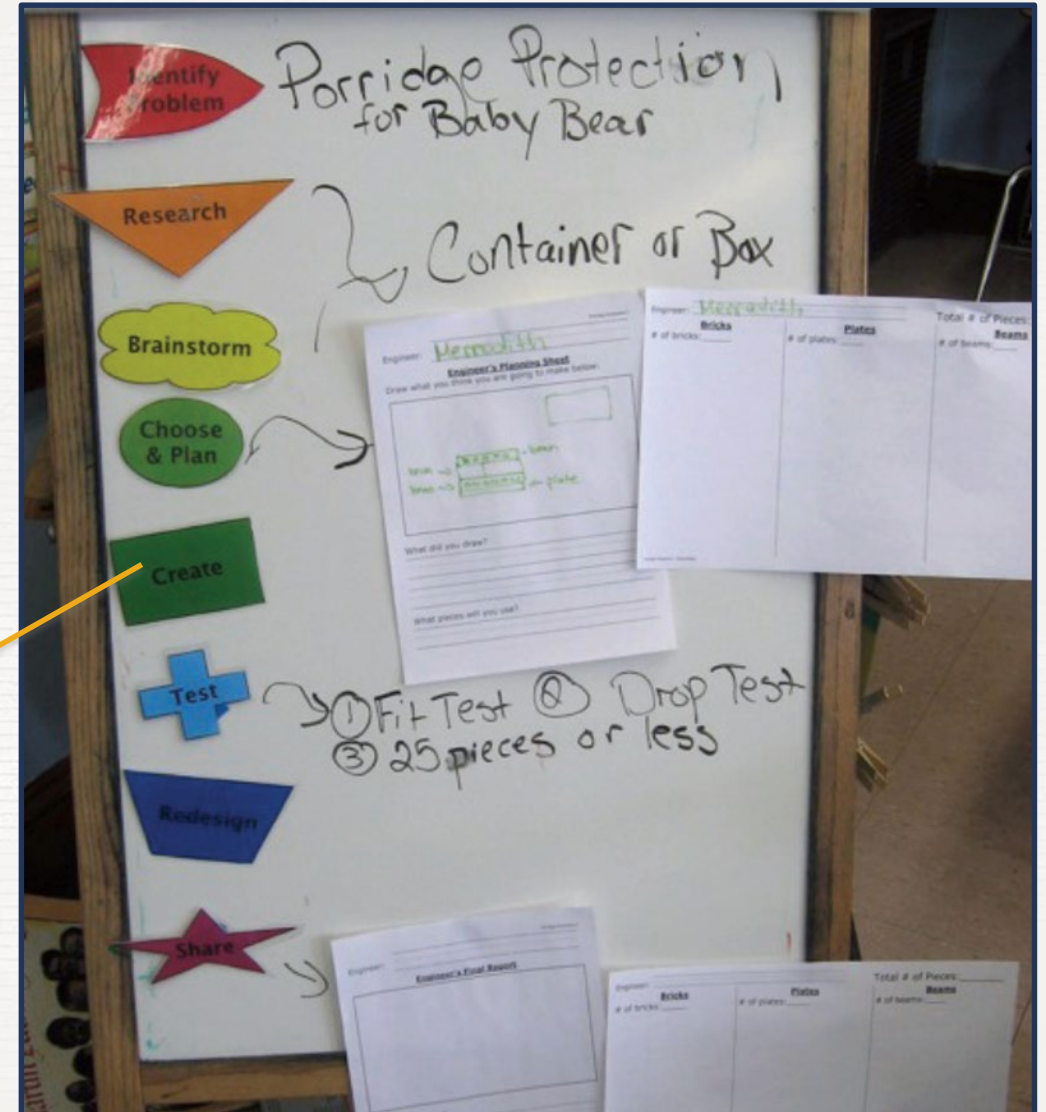
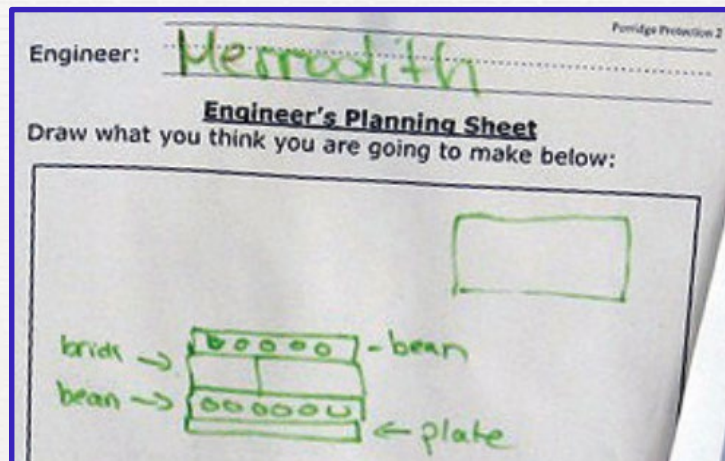




# Baby Bear has problems!

## Goldilocks Engineering

- x Baby Bear needs his porridge protected.
- x Baby Bear needs a new chair.
- x Baby Bear needs somewhere to sleep.





creativewithkids.com



# Marble Runs



Build a Paper Plate Spiral Mar...  
frugalfun4boys.com



Build a Paper Plate Spir...  
pinterest.com



Paper Plate Spiral Marble Tra...  
pinterest.com



DIY Marble Run from Toil...  
powerfulmothering.com



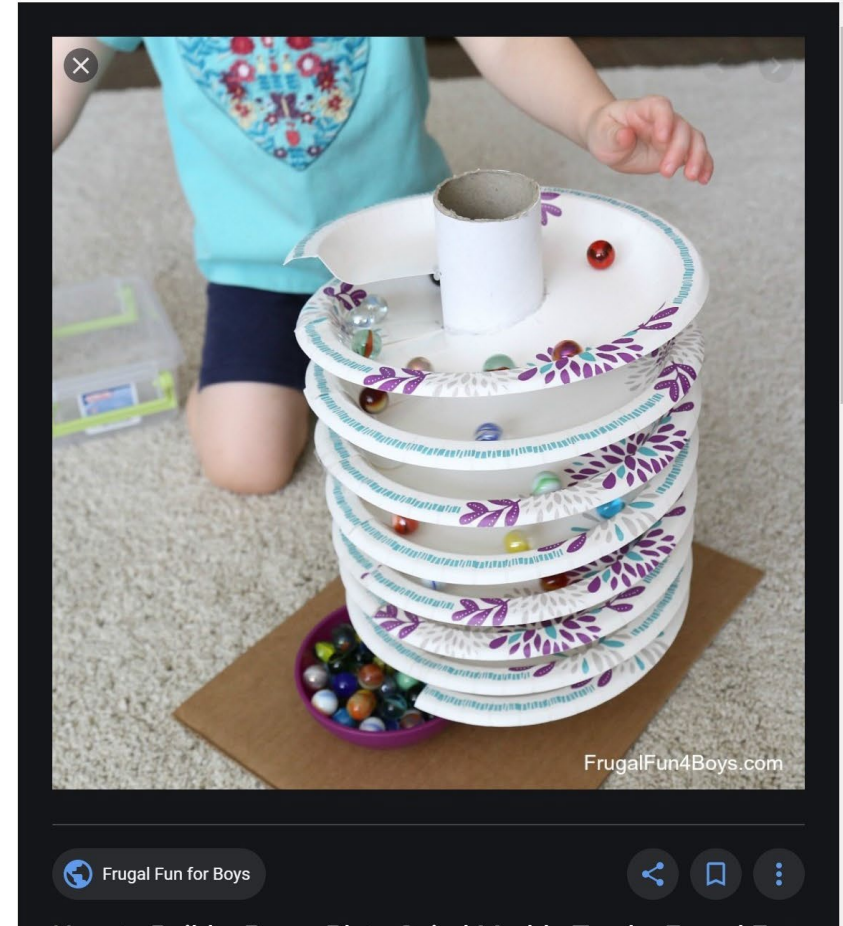
Paper roller coaster, Roller ...  
pinterest.com



How to Make a Marble Run with Kids ...  
tinkerlab.com



DIY Marble Run from Toilet R...  
powerfulmothering.com



## You can also split your content

Where is it already happening, or could be soon?

- X **Legos and blocks**— add blocks of different materials
- X **Bath and sink play**— add pumps, spray bottles, pipes, foam
- X **Sand and dirt play** — add toy construction vehicles, scoops, funnels, buckets, pulleys
- X **Kitchen**— use pots, pans and colanders, and cups
- X **Paper and Cardboard tubes and balls/marbles**

## Adjust for all learners & ages

### Entry point:

- X Vary how you get children started on their designing

### Process:

- X Vary the steps children are expected to follow as they design
- X Vary the materials and tools provided
- X Vary the design challenges that are assigned

### Product:

- X Vary the final outcome that children share with classmates and teachers









The background of the slide is a light gray surface with a faint grid pattern. Scattered around the perimeter are several sharpened colored pencils in various colors including red, purple, blue, teal, green, yellow, and orange. The pencils are oriented in different directions, some pointing towards the center and others away from it.

Angi Stone-MacDonald

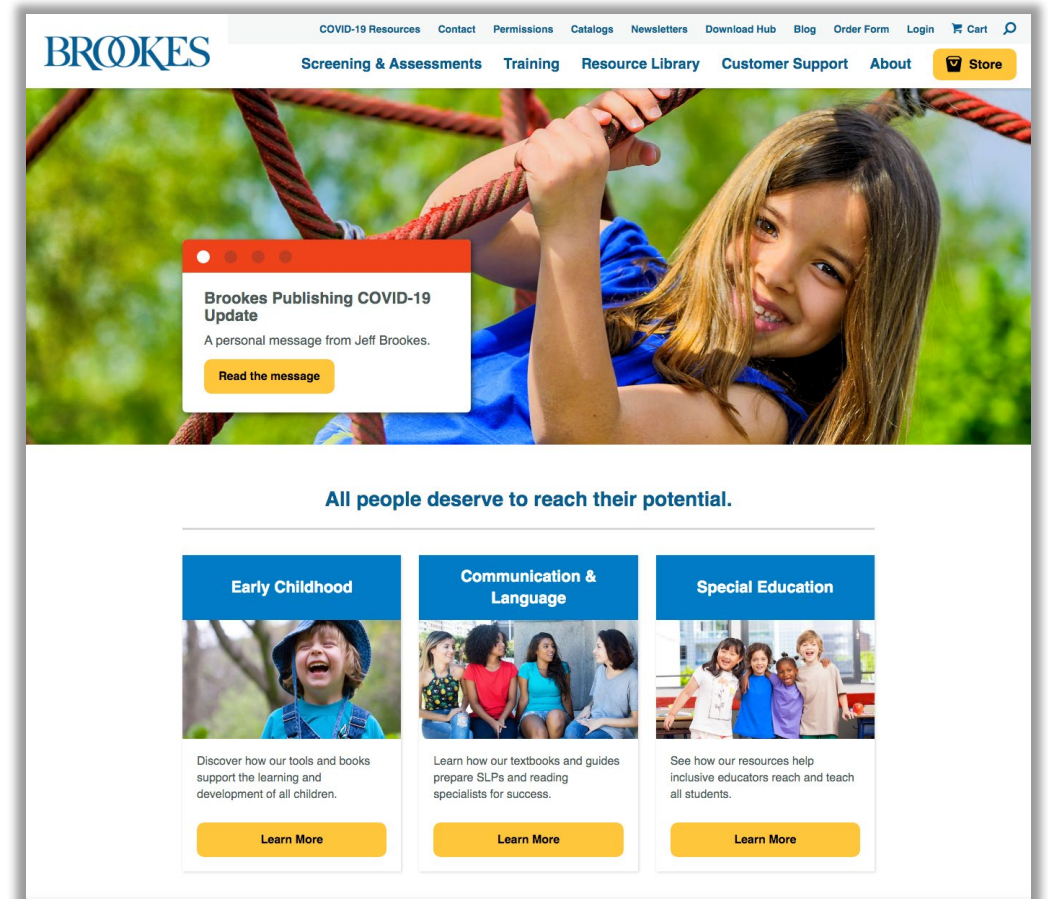
[Angela.stone@umb.edu](mailto:Angela.stone@umb.edu)

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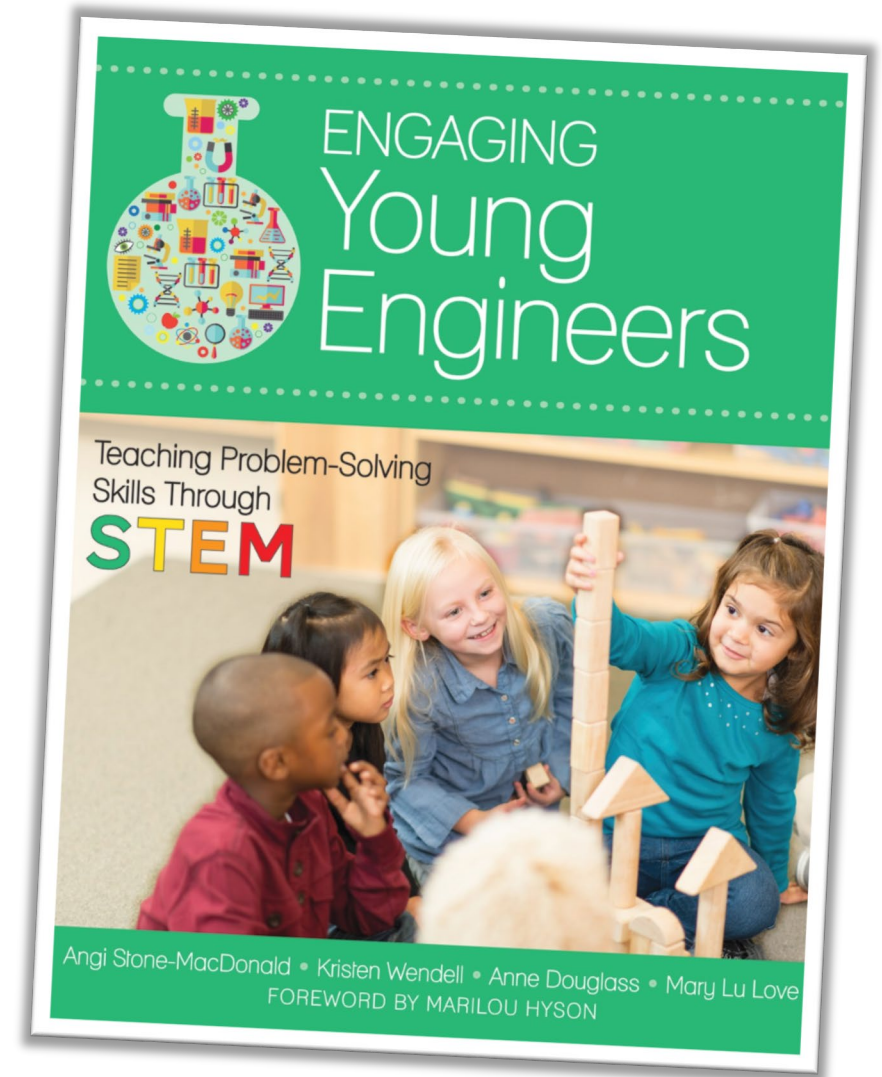
*\*Expires 6/30/20. Not to be combined with any other discounts or offers. Consumer orders only, please. Excludes BOL training, pre-discounted bundles, and online products such as ASQ Online and AEPS Interactive*



# Giveaway

We're giving away 3 FREE copies of  
**Engaging Young Engineers!**

Three attendees will be selected at random  
and emailed after the webinar.



# Coffee Chats

Looking for more professional development opportunities?

<http://bit.ly/BrookesCoffeeChats>

*New presentations added weekly!*



# COVID-19 Resources

- Recommended reading
- Downloadable resources
- Professional development webinars

[bit.ly/COVID-Brookes-EC](https://bit.ly/COVID-Brookes-EC)



The screenshot shows the Brook's website with a dark blue header. The Brook's logo is on the left. The navigation menu includes: COVID-19 Resources, Contact, Permissions, Catalogs, Newsletters, Download Hub, Blog, Order Form, Login, Cart, and a Store button. Below the navigation, the main heading is "Early Childhood Resources to Help During COVID-19". A breadcrumb trail reads "Home » Early Childhood Resources to Help During COVID-19". Below this is a photograph of a smiling woman and a young child looking at a laptop. To the right of the photo is a large, faint watermark that reads "Early Childhood Resources to Help During COVID-19". Below the photo, the text reads: "You're rising to the occasion. We're here to help." followed by a paragraph: "We know you're facing unprecedented disruptions to your important work with families due to the spread of COVID-19. In our new reality, how can you stay connected with families, continue providing essential services, and keep promoting the healthy development of young children?" and another paragraph: "We've compiled a growing list of free resources to help you through these uncertain times. From blog posts to webinars, these expert resources will help you support young children and families and continue your professional development while you're staying safe at home." On the right side of the page, there is a red-bordered box containing a logo of a coffee cup with a 'B' inside, and the text "COFFEE CHATS WITH BROOK'S".



**QUESTIONS?**