

Learning Task: CAEMI 2020 Breakout Activity

Description	An activity designed for participants to
Connections to Conference Theme (e.g. Professional Noticing, Play, Culturally Relevant Pedagogy, Children’s Math and Science, Learning Theory)	Children’s Math and Science Play
Content (knowledge, skills, & attitudes)	<p>Knowledge:</p> <ul style="list-style-type: none"> ● Professional Noticing ● Understanding characteristics of high quality, playful, creative, frequent, and engaging early math and science experiences <p>Skills:</p> <ul style="list-style-type: none"> ● Identify content within contexts and experiences ● Creating intentional playful experiences in math and science <p>Attitudes:</p> <ul style="list-style-type: none"> ● Value the practices and resources that students engage with at home and in communities ● Math and science thinking is evident early ● Intentional positive attitude around math and science
Achievement Based Objective (so that ...) from 8-step design	<p>So that...</p> <p>Participants will have experienced an activity around spatial reasoning to continue their understanding of children’s math, reflect on their own learning, and potentially implement it with their staff.</p>

4 A's

Generally, a learning task requires at least an ADD and an APPLY step, and a learning event will start with an ANCHOR and end with an AWAY.

Anchor

A task that has the learner access their own prior knowledge or experience with the topic/content/or similar experience (i.e., "Describe your best learning experience of...")

Add

A task that has the learner hear/ see/ experience a substantive new piece of content: information, research, theory, skill (i.e., this can be with PowerPoint, film clip, demonstration, etc.)

Apply

A task that has the learner do something— there and then—with the new content (i.e., practice, application, case studies, compare, etc.)

Away

A task that connects the new learning back to the life of the learner and its future use (i.e., a personal action plan, commitment, projection into the future, etc.)

Time	Content	Identify your A: Anchor, Add, Apply, Away	Activity Description	Materials/Handouts/Resources
5 min	Exploring material	Anchor	<ul style="list-style-type: none"> ● Slides 3-4 ● Unboxing fun! ● Explore the hexbug (what does it do?) <ul style="list-style-type: none"> ○ What do you notice? ○ What do you wonder? ○ What would you try next? 	Slide deck https://bit.ly/32DNFJS
5 min	Brainstorming ideas	Add	<ul style="list-style-type: none"> ● Brainstorm and Scavenger Hunt <ul style="list-style-type: none"> ○ Items to direct and play with hexbug <ul style="list-style-type: none"> ■ What might block the hexbugs path? ■ What might contain the hexbug? 	
5 min	Using material	Add	<ul style="list-style-type: none"> ● Play time with Hexbugs: Moving through Obstacles <ul style="list-style-type: none"> ○ Share padlet ○ Feel free to unmute and share as you explore. ● Share slide 5 with pictures of children engaging with hexbug 	Padlet
5 min	Computer Science Practice - Low tech	Add	<ul style="list-style-type: none"> ● Where is the math in this activity? <ul style="list-style-type: none"> ○ Practice 6: Testing and refinement is the deliberate and iterative process of improving a computational artifact. This process includes debugging (identifying and fixing errors) and comparing actual outcomes to intended outcomes. Students also respond to the changing needs and expectations of end users and improve the performance, reliability, usability, and accessibility of artifacts. ○ Go back to padlet 	
7 min	Sharing and Reflection	Apply	<ul style="list-style-type: none"> ● Share out <ul style="list-style-type: none"> ○ What goals did you make for yourself? ○ What did you try in attempting to solve the problem ○ What did you try that didn't work? 	

			<ul style="list-style-type: none"> ○ What do you notice? What do you wonder? ○ What would you try next? ○ Where is the math in this activity? Think about the different ages of kids you work with. 	
8 min	Making Connections	Apply	<ul style="list-style-type: none"> ● Slide 6 ● Ping Pong ball - Another option <ul style="list-style-type: none"> ○ Video ○ Challenge: Make ball take as long as possible etc ○ Other ideas? ○ Share on padlet during the week if you make a pathway for your ping pong ball 	Video
5 min	Reflection on learning from the year	Away	<ul style="list-style-type: none"> ● Slide 7 ● Reflection from the year: Keeping learning playful like the Hexbugs <ul style="list-style-type: none"> ○ Images of obstacles to reflect on how they feel going forward in the school year ○ What do the obstacles represent? ○ What pathways can be created? 	Images of obstacles to reflect on, some positive or empowering
1 min	Reflection	Away	<ul style="list-style-type: none"> ● Slide 8-9 ● Connection to Poster Session (our wrap-up, not a conversation) <ul style="list-style-type: none"> ○ Coming Up: ○ Questions to Ponder: What are some ways other organizations navigated through the grant that caught your attention? What might be some things you take away from their efforts? ○ Now as we listen in our community to how others share about some of the specifics in their paths on the grant, let's celebrate and learn from each other. 	

CA Framework References for additional information on Spatial Reasoning:

- [Infant/Toddler Curriculum Framework](#)
- [Preschool Curriculum Framework](#)
- [K-12 Mathematics Framework](#)
- [K-12 Computer Science Standards](#)