Identifying Barriers, Imagining Solutions: Using Research to Improve Urban EE

MEES 2018
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ECOS = Environmental Center for Our Schools

WELCOME TO
CLIFFORD A. PHANEUF
ENVIRONMENTAL CENTER

School is in session! sorry... Area closed to Public during the hours between 9AM-2³⁰ Monday-Friday Thank you for your co operation We Learn.

Mission Statement: *"ECOS provides outdoor environmental education for the Springfield Public Schools using Forest Park as an outdoor classroom. At ECOS, students engage in scientific inquiry through the use of science and engineering practices to develop an <u>attitude of respect and stewardship for the natural world</u>"*

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We ❤ Learn SPS

- Urban (Forest Park)
- All students in Springfield Public Schools
  - 4th, 5th, 6th, 7th grade
- 48 years old!

Overview

- Who we are and why we're here
- How we think about this
  - Extinction of Experience
  - Transformation of Experience
- What we've been working on

Extinction of Experience

- Urbanization = people have less access to nature
- Changing schedules/preferences = people spend less time in nature
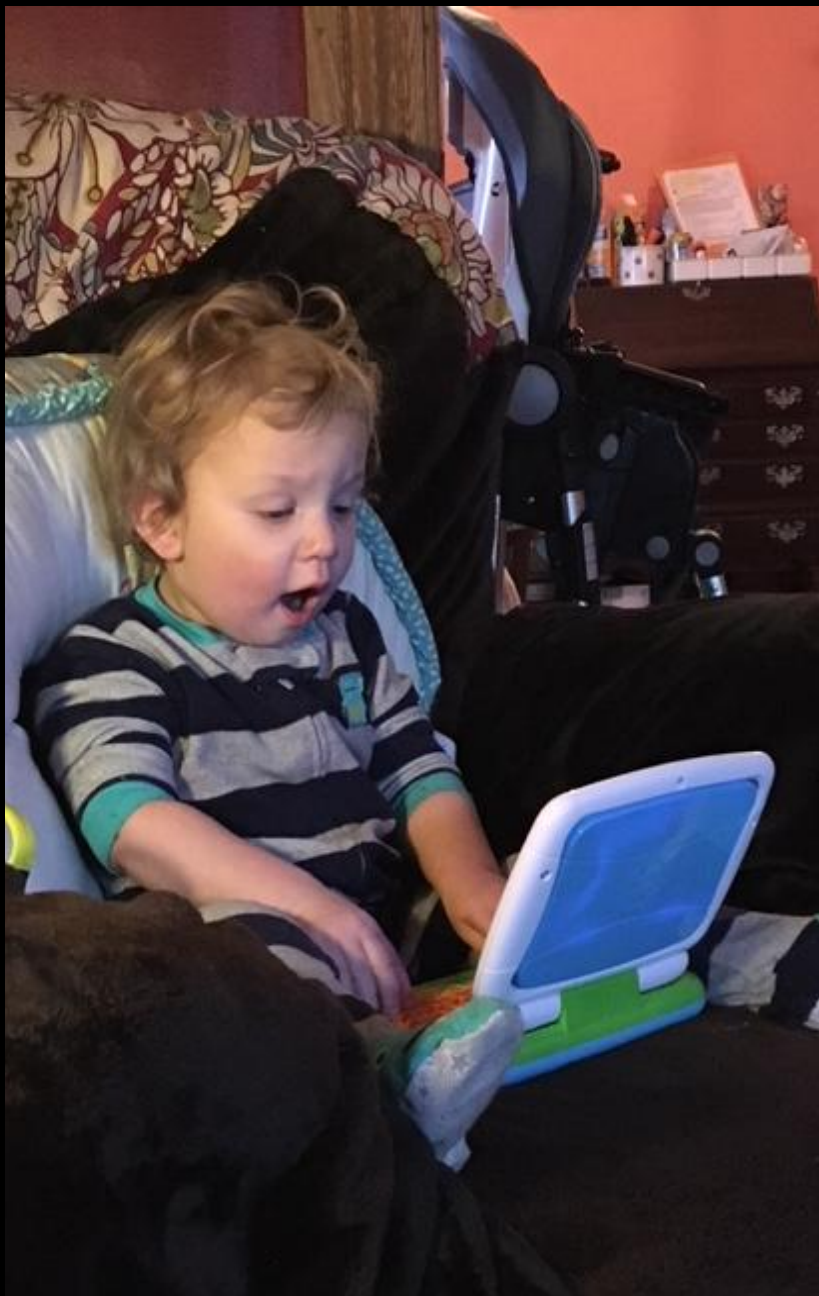- Especially children!
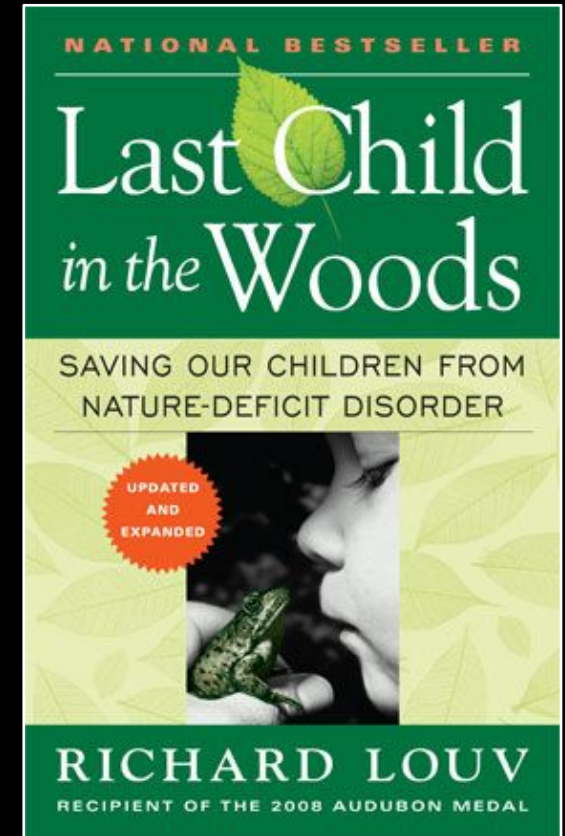
First selfie at 8 months

How we think about this   What we've been working on

Maddux advances to a desktop computer

How we think about this

What we've been working on

How we think about this

What we've been working on

How we think about this   What we've been working on

Transformation of Experience

- People's experience with nature is *transforming*
  - "global urbanization and the development of technology, in combination with new ways of working, seeing the world, and consuming, are too different today to allow the experience of earlier generations to be replicated." - Clayton et al. 2016
- Technology
  - Minecraft, Pokemon Go, etc
- Social Context

Clayton, S., et al. (2016). Transformation of experience: Toward a new relationship with nature. *Conservation Letters*

How we think about this   What we've been working on

Transformation of Experience: Tech

The Berkshire Eagle

News   Sports   Landscapes   Entertainment   Life   Opinion   Podcasts   Obituaries   Publications   Marketplace   Subscriber Serv

Newsletters

Our Opinion: Flake wrongly targets worthy Greenagers grant

Posted Friday, January 27, 2017 6:03 pm

The Great Barrington nonprofit Greenagers was quietly going about its business helping local youth when it found itself the target of misinformation last week. That is an all too common threat these days.

Greenagers found itself on the "Wastebook" of Senator Jeff Flake, an Arizona Republican who uses the booklet to chronicle what he claims are examples of wasteful federal spending (Eagle, January 26). The senator asserted that Greenagers, which helps local youth learn conservation work and resource management, was misusing a $36,700 grant from the Environmental Protection Agency, an embattled agency in Washington, D.C., these days, to develop a version of the video game "Minecraft" for the Berkshires.

How we think about this   What we've been working on

Transformation of Experience: Tech

Charmander

COMPASS RALLY   team names_____   1

Objective: to navigate to three rally points and record the Pokemon symbol found there.

Starting at the "Base Tree"   How many paces?
multiply meters x PACE FACTOR

Direction	Distance (meters)		Pokemon symbol found
334 °	69 m	69	(do not remove it from tree)
(move this direction for this distance)		X_____(pace factor) This is the number of paces you need to take.	
130 ° from the Pokemon you found	87 m	87 X_____(pace factor) This is the number of paces you need to take.	
256 °	67 m	67 X_____(pace factor) This is the number of paces you need to take.	

Venusaur

erk999999   35

How we think about this   What we've been working on

Transformation of Experience: Legacy

<u>How we think about this</u>   What we've been working on

How do we counter
the Extinction of Experience
(or facilitate the Transformation)?

4th grade ECOS program
- Habitat exploration (pond, field, forest)
- Catching/looking at small animals
- Silent sit, Bubble-gum tree

Aligned with MA learning standards

The ECOS Program Evaluation

- Collaborative assessment between ECOS teachers and UMass grad student
- If ECOS is successful, students will repeat, talk about, and feel confident doing ECOS-learned activities
  - Where are the students "at"?
  - Are we achieving program goals?

- Surveyed Grade 5 students about their memories of Grade 4
- 562 students took the survey among 10 schools
- 364 students and their parents gave assent/consent (64.8%)
  - 87.5% of students gave assent and 72.8% of parents gave consent
- Surveys took ~17 minutes on average
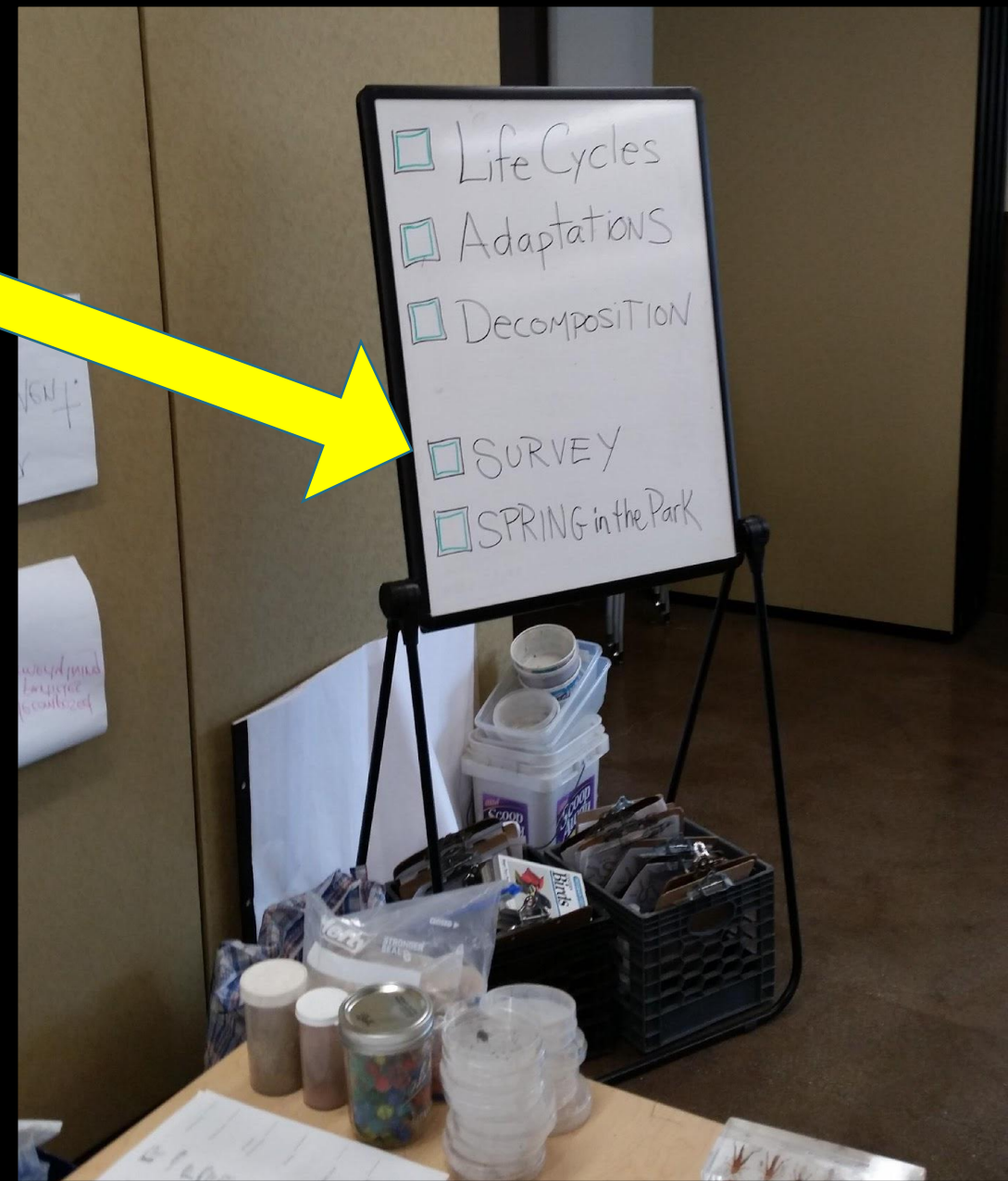- ~90% went to ECOS last year
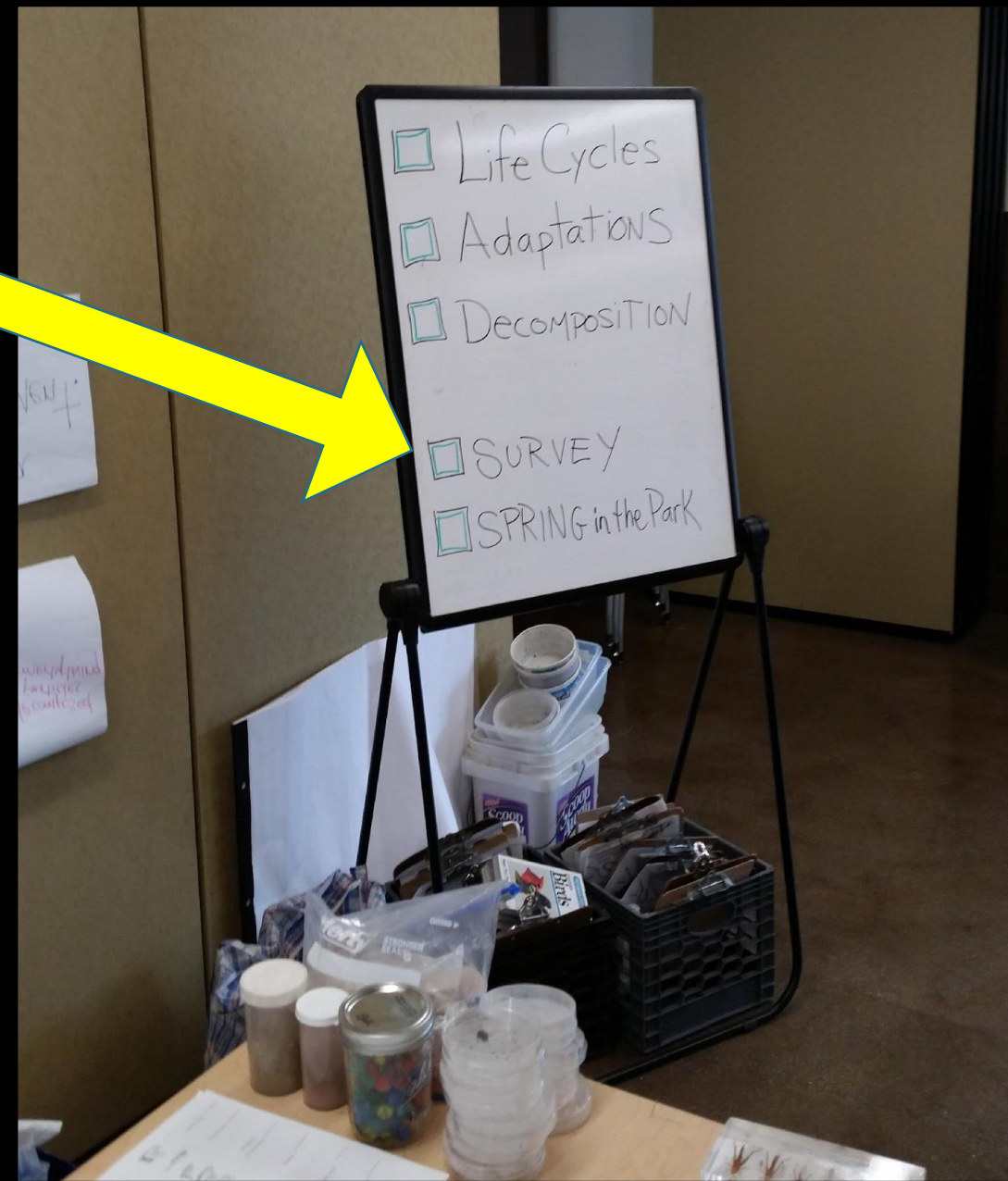
How we think about this   What we've been working on

Survey Structure

- Part 1. Background Information
  - Access to nature
  - Outdoor activities
  - Emotional context
  - "ECOS Legacy"
- Part 2. Choose an Activity from last year
- Part 3. Activity Outcomes
  - Repetition, Discussion, Confidence

How we think about this

What we've been working on

The ECOS Program Evaluation

Main findings

- Confidence is most consistent outcome
  - Across all chosen activities
    - **47%** repeated the activity
    - **33%** discussed the activity
    - **71%** feel confident doing it
- Why? Legacy and Outdoor Activities matter
- The most common barrier was pests, not danger

Chosen activity: catching small animals at the pond.
In the past year...

34.3% repeated the activity

35.4% discussed the activity

72.0% feel confident doing it

"I remember when we cathed tadpoles and frogs because we were learning about the frog cycle"

"When we caught frogs and played with them."

Chosen activity: catching small animals at the pond.

In the past year...

34.3% repeated the activity

35.4% discussed the activity

72.0% feel confident doing it

Why do some students repeat, discuss, and feel confident about ECOS activities?

> Students who did more "recreational" activities were **1.6x** more likely to repeat the ECOS activity (CI: 1.2, 2.2)

> Students who did more "immersive" activities were **2.1x** more likely to discuss the ECOS activity (CI: 1.2, 3.7)

> Students who's **teachers talked about ECOS** were

1.5x more likely to discuss the ECOS activity

(CI: 1.1, 2.0)

> Students who's **parents did ECOS** were

3.2x more likely to discuss the ECOS activity

(CI: 1.3, 8.7)

When parents did the activity at ECOS**, students were more likely to repeat the activity **with** **parents

Part 2: Identifying Barriers, Imagining Solutions

Identifying Barriers, Imagining Solutions

- Program evaluations help articulate goals, identify barriers, imagine solutions.
- Not that different than what you do every day!
- Let's practice together.

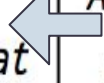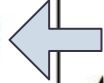| |
|---|
| If you had no restrictions, identify 1 or 2 environmental *learning*, *behavioral*, or *attitudinal* outcomes that you would have as a goal for your students. |
| Outcome 1

 Students will be more interested in reading books outside |

If you had no restrictions, identify 1 or 2 environmental *learning*, *behavioral*, or *attitudinal* outcomes that you would have as a goal for your students.	Describe the key relevant activities that you could use to achieve this outcome.
Outcome 1 *Students will be more interested in reading books outside*	*Silent sit: writing poetry and reading from their journal*

If you had no restrictions, identify 1 or 2 environmental *learning*, *behavioral*, or *attitudinal* outcomes that you would have as a goal for your students.	Describe the key relevant activities that you could use to achieve this outcome.	List some of the barriers that may prevent you from achieving these specific outcomes.
Outcome 1 *Students will be more interested in reading books outside*	*Silent sit: writing poetry and reading from their journal*	*Students may not have books, might not be interested in reading at all, or not have good places to read outside*

If you had no restrictions, identify 1 or 2 environmental *learning*, *behavioral*, or *attitudinal* outcomes that you would have as a goal for your students.	Describe the key relevant activities that you could use to achieve this outcome.	List some of the barriers that may prevent you from achieving these specific outcomes.	Identify the assets that may help you remove these barriers (student attributes/interests, material resources, community members, school or program legacy, etc).
Outcome 1 *Students will be more interested in reading books outside*	*Silent sit: writing poetry and reading from their journal*	*Students may not have books, might not be interested in reading at all, or not have good places to read outside*	*Public library/librarians* *Annual book-fair at elementary school that everyone attends* *Smartphones (like books)*

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Remember the Transformation of Experience: think of a technology or legacy relevant to your program/setting

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Action steps (how you plan on using assets to remove barriers)

Outcome 1

look online to see if public library does any outdoor reading events
find out when the next book fair is

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Outcome 2 *Students apply their background knowledge to outdoor observations*	*Students use digital media devices, research what recorded segment shows, present to class*	*Time* *Cost of devices* *Computers for research*	*Personally owned devices* *Seek partnership with schools*

Action steps (how you plan on using assets to remove barriers)

Outcome 1

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Outcome 2

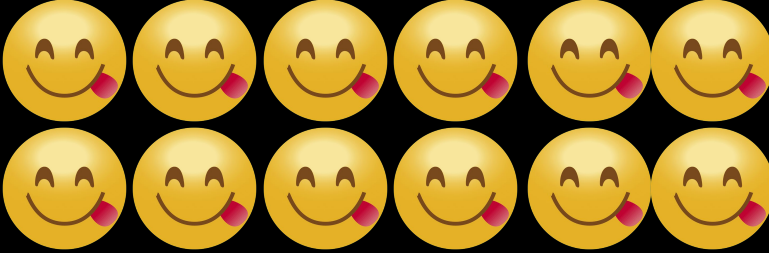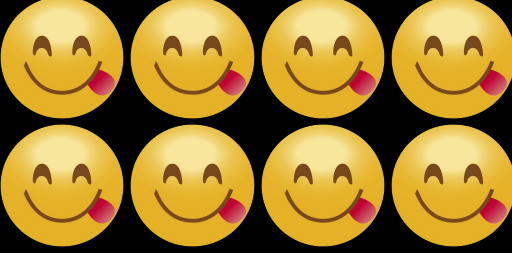*meet with team and share ideas - get buy-in*
then meet with teachers in partnering schools

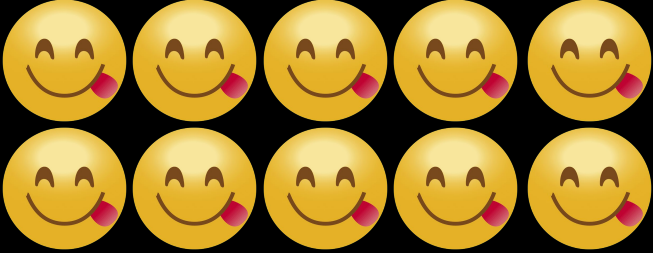Part 3: "Four Corners"

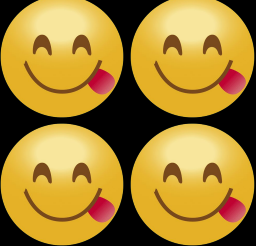# Where are your participants "at"?

- Research mindset: make observation to support or challenge your assumptions
- Not that different than what you do every day!
- Let's practice together.
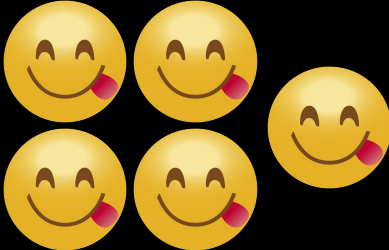
		Did you identify a legacy or technology asset relevant to your outcome?	
		Legacy/Story	Technology
Did you identify an action using your asset?	No	1	2
	Yes	3	4

		Question 1	
		Option 1	Option 2
Question 2	Option 1	**1**	**2**
	Option 2	**3**	4

		Ice Cream Flavor	
		Chocolate	Vanilla
Serving Style	Cone	1	2
	Cup	3	4

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		Ice Cream Flavor	
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Serving Style	Cone	1 😋😋😋😋😋 😋😋😋😋😋	2 😋😋 😋😋
	Cup	3 😋 😋	4 😋😋 😋😋

		Ice Cream Flavor	
		Chocolate	Vanilla
Serving Style	Cone	1	2
	Cup	3	4

Where are your participants "at"?

- Make your own Four Corners that you can use in your setting
- This is your "ticket to leave"!

Thank You!

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