



Daring Design

Creating Elementary Schools that Emulate
Children's Museums for Better Experiences

Presenters



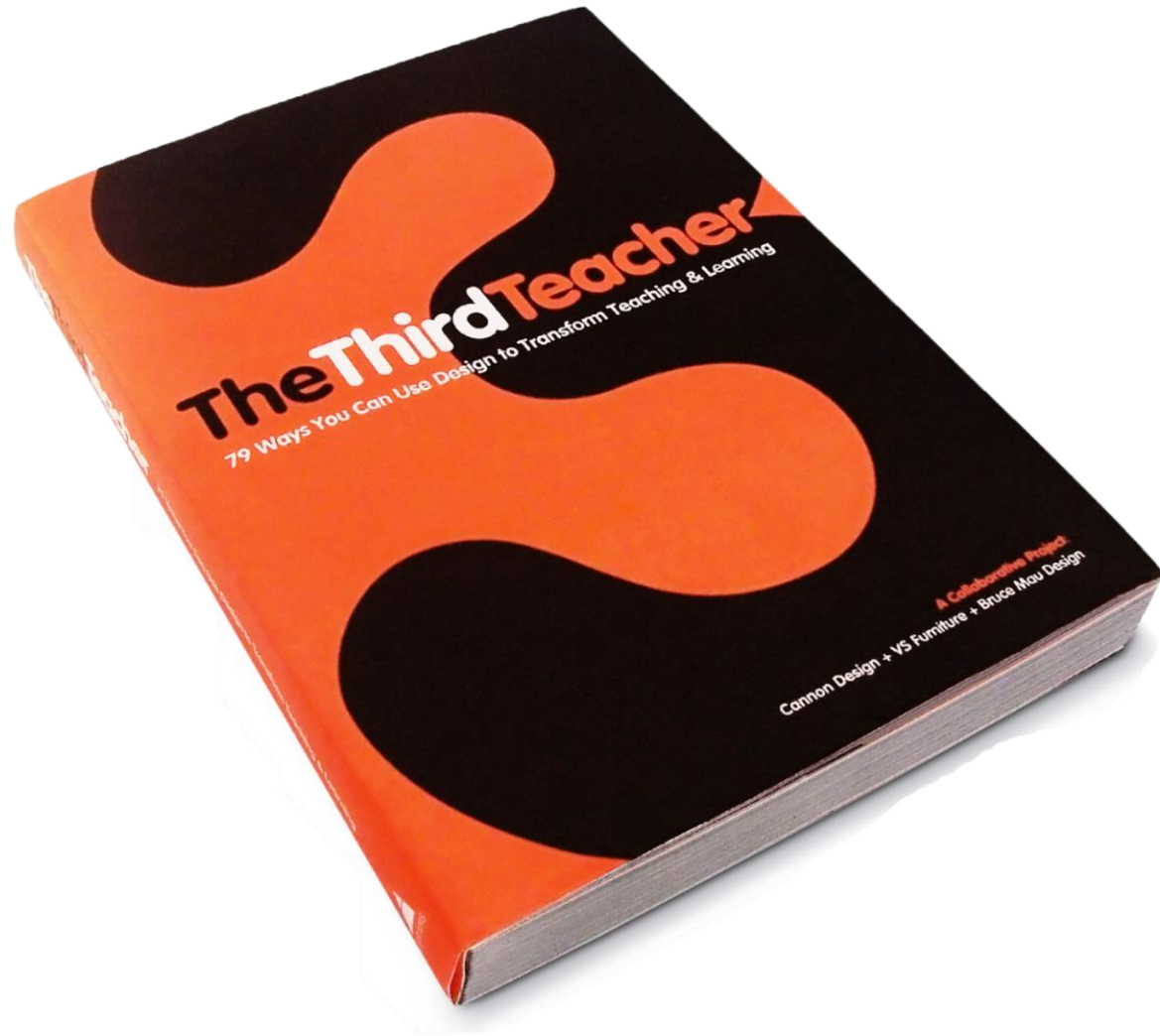
Anne Fullenkamp
Senior Director of Creative,
Experiences
Children's Museum of Pittsburgh



Michael Corb
Senior Vice President
CannonDesign

Learning Objectives

- Learn the core principles of children's museum design that can be infused in elementary school learning spaces and entire schools.
- Understand the process of bringing learning modes together to serve different learning styles.
- Learn the fluid programming elements that create porous learning environments throughout the building.
- Learn the partnership requirements and best practices for engaging stakeholders at all levels



Emulate museums

An environment rich in evocative objects – whether it's a classroom or a museum – triggers active learning by letting students pick what to engage with.

‘HYPOTHESIS’

**By emulating children’s museums,
elementary schools can be more compelling,
relevant, engaging and successful.**

Children's Museum of Pittsburgh Drivers

- 1 Innovative experiences that inspire joy, creativity and curiosity.
- 2 Highest quality aesthetics and attention to functionality creates sustainable, usable and welcoming spaces.
- 3 Embracing role as partner and resource for people who work with or on behalf of children.

CMP Design Philosophy: Play with Real Stuff

Open-ended exploration to real tools, materials and processes and access to authentic and inspiring experiences



Where are Museums Going?

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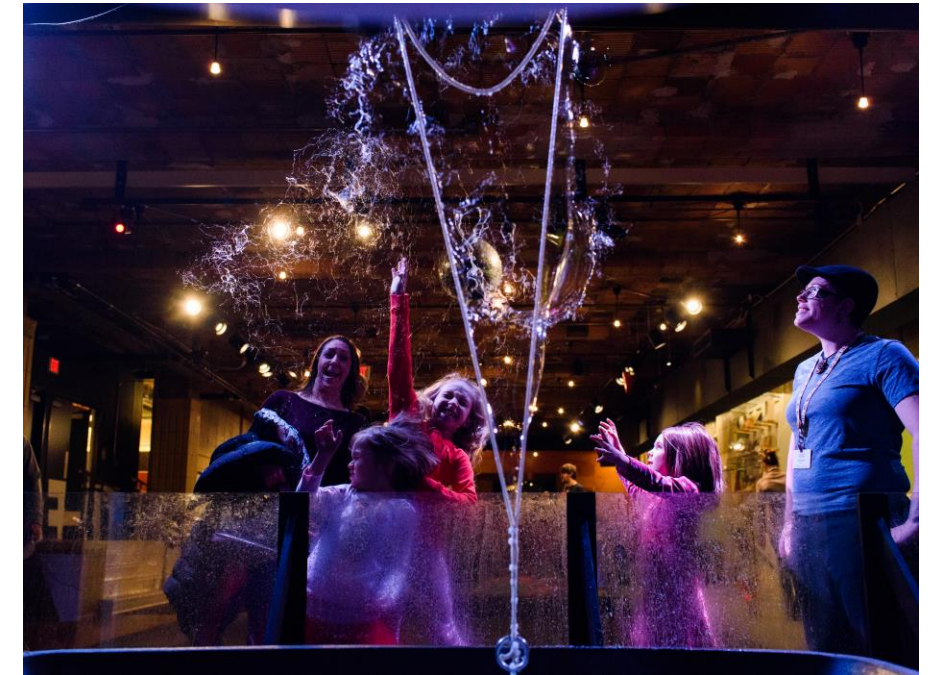
Children's Museum Attributes

- Informal learning
- Inter-generational
- Meet learners where they are
- Remediation without stigma
- Less about corridors, more about spaces
- RESPONSIVE & FLEXIBLE



Children's Museum of Pittsburgh – MakeShop

Museums as **LABORATORIES**
COMMUNITY RESOURCE
places for **REAL & RELEVANT** experiences



Convergence

(Re) Imagine Schools

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“We want to teach to the whole child...in a building that is a tool for teaching.”

Dr. Tracy Vitale, Superintendent, SVSD

Design for students of today and tomorrow

21st CENTURY SCHOOL ATTRIBUTES

- Varied Space Types and Sizes
- Collaborative
- Adaptable
- Interdisciplinary
- Social Emotional Sensitivity
- Holistic Wellness
- Community-Based



School as **LABORATORIES** **COMMUNITY RESOURCE** places for **REAL & RELEVANT** experiences



What's the Bridge?

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- Teachers and students as **curators** of the classroom
- (Like museums) school buildings are **multi-generational** investments by and for the community
- (Like Museums) Facilities need to handle these changes easily and cost-effectively as curricula and pedagogies change



Remember **play**! This is critical to learning



Application

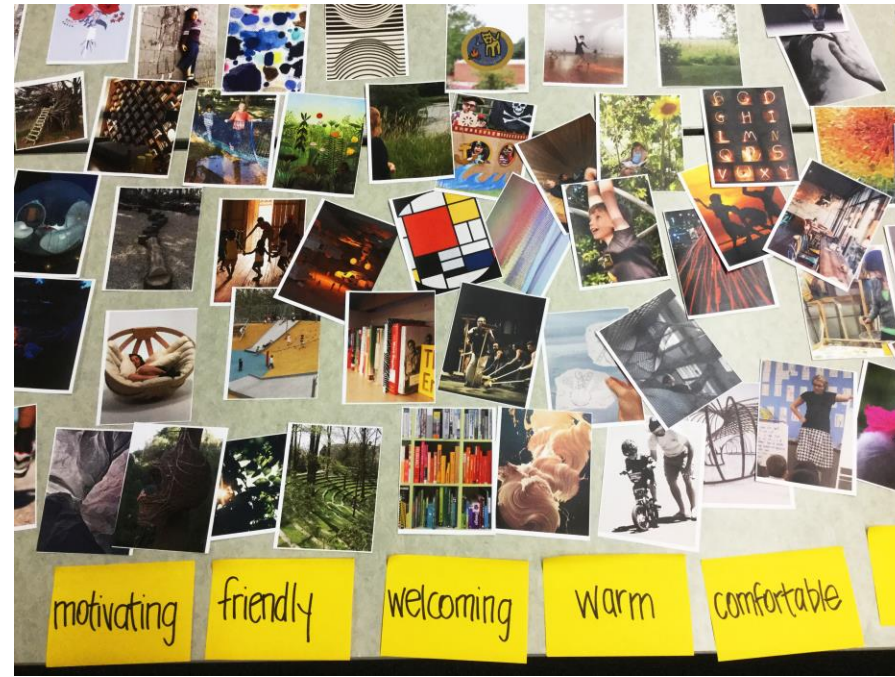
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(Re)Think Process

- 1 Engage **adult stakeholders** differently.
- 2 Focus Groups – **Ask questions differently** to get more useful information from students and teachers.
- 3 Follow Up – Stay involved with the project during the **first year of operations**.

(Re)Think Process

Engage Adult Stakeholders Differently

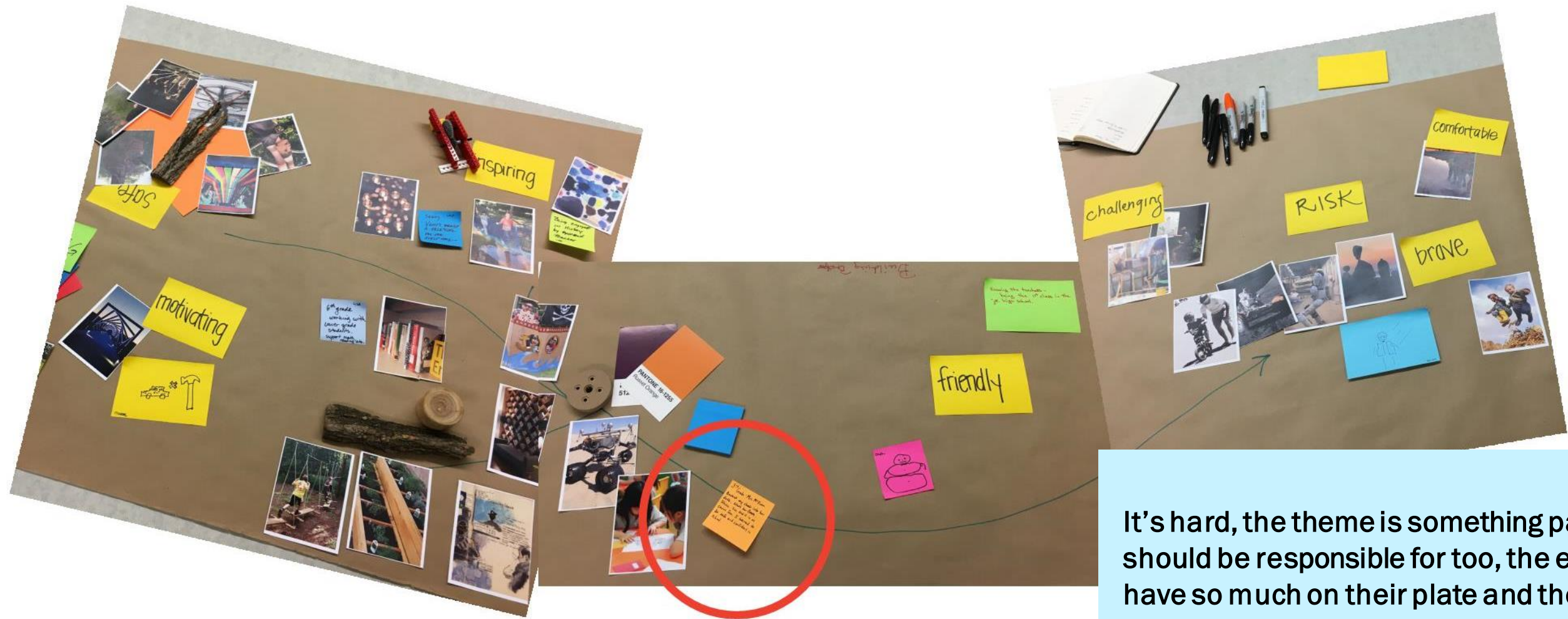


It's so important to get real materials and different materials in our kids hands and getting them to actually build things and do things and get their brain working outside of technology, but it's also the world that they're living in.

If you're not having fun, what the heck? You learn a lot more when you're having a good time.

(Re)Think Process

Engage Adult Stakeholders Differently



It's hard, the theme is something parents should be responsible for too, the educators have so much on their plate and they can present the subject but part of that is up to us to relate it to real life.

(Re)Think Process

Engage Adult Stakeholders Differently



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I picked this pine tree bark, because trees make air, and that helps you get peaceful and quiet. ...Some bold, but not that bold colors, help me relax.

(Re)Think Process

Emerging Themes

1 Community

- The school as a hub and driver of community
- Community as a supportive context to the learning environment

2 Security / Flexibility

- A safe, supportive environment that enables individualized and organic learning experiences
- Bravery enabled by a sense of security

3 Student Experiences

- Engaging the mind through multiple mediums
- Technology enabled but not technology focused

4 Emotional Climate

- Fun and friendly
- Therapeutic
- Comfortable

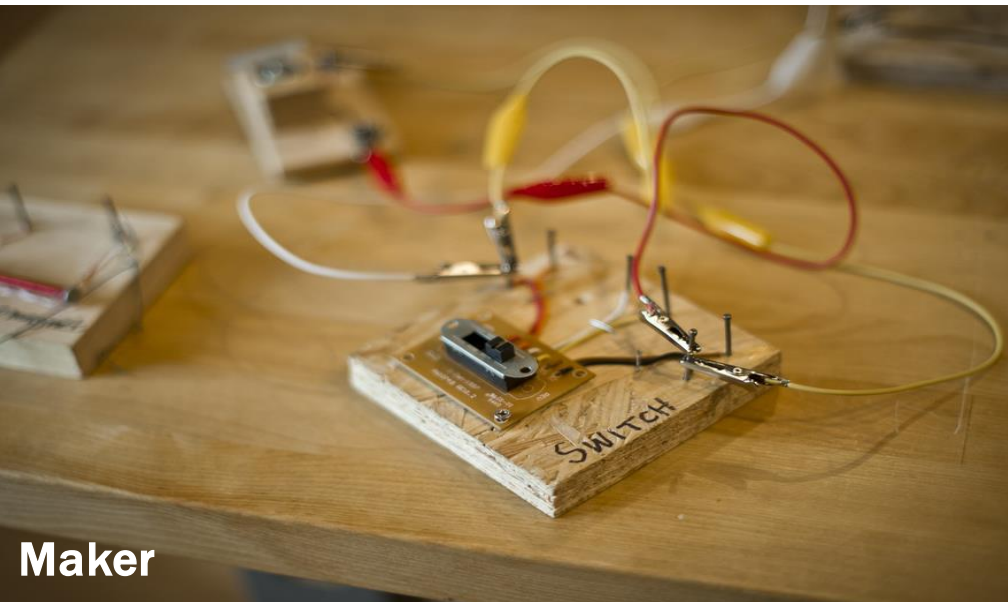
5 Innovation

- A forward looking, sustainable environment
- Reflective of the unique learning within, without limiting adaptability

6 Context

- Make big feel small
- The total environment acting in support of learning opportunities

(Re)Think Program

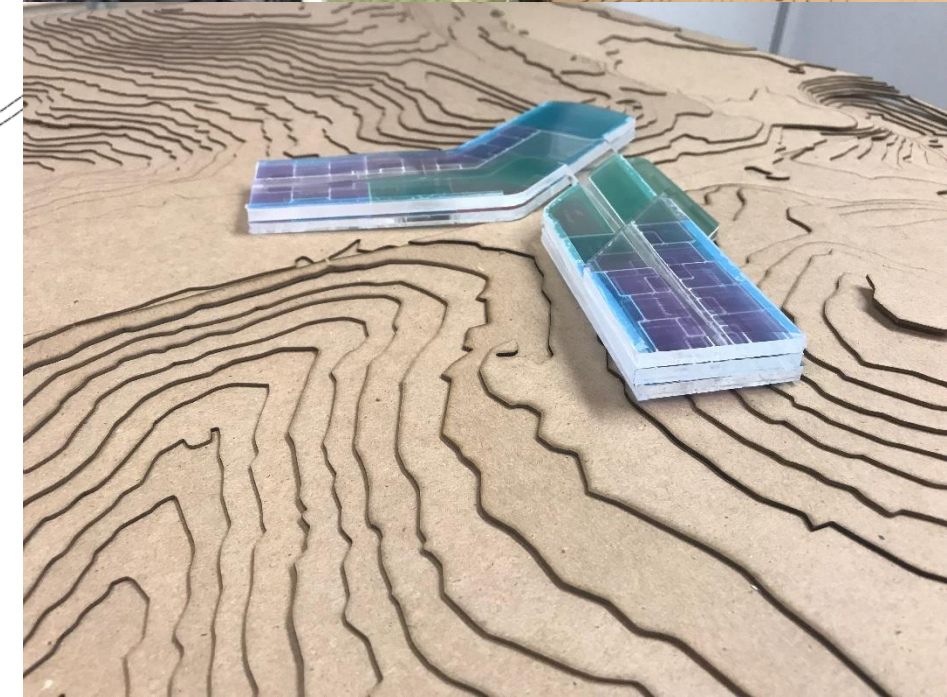
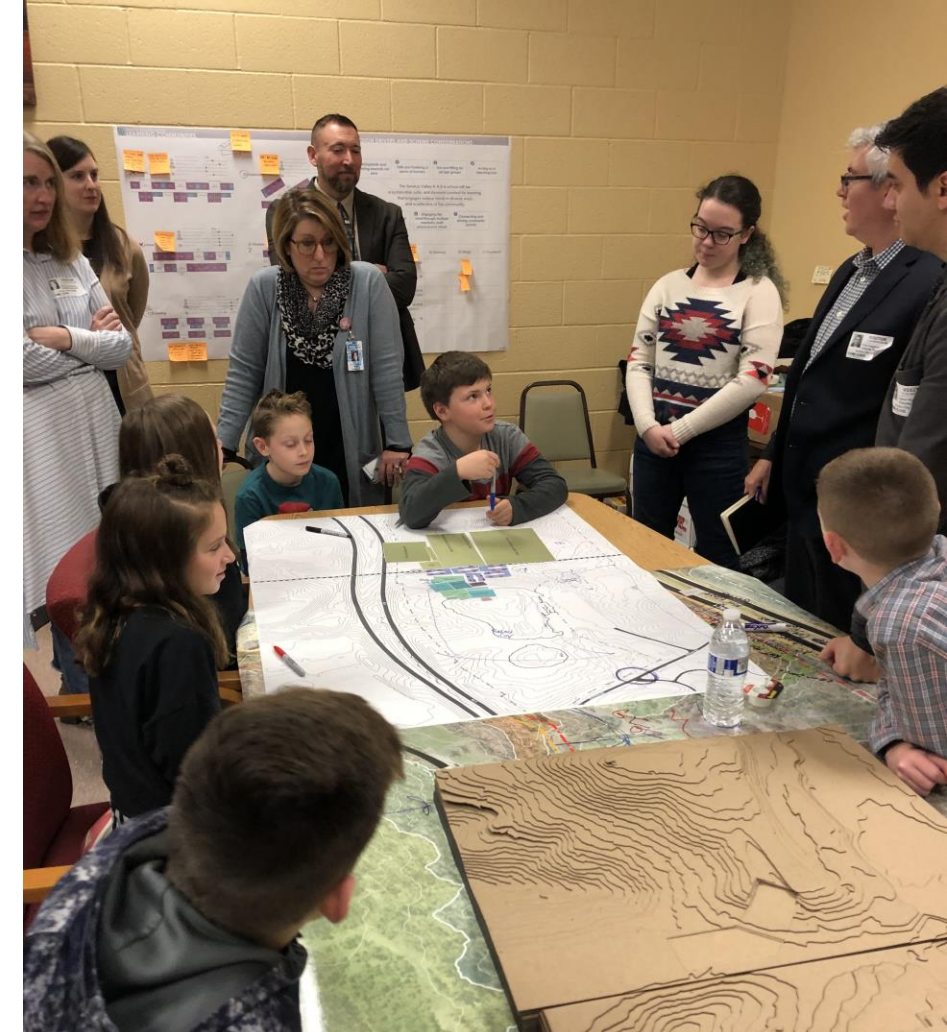


...and more

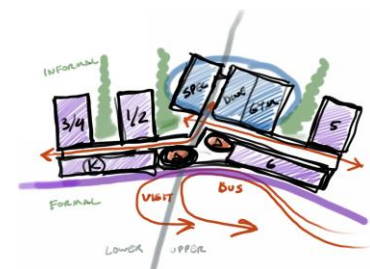
Site Planning

The School

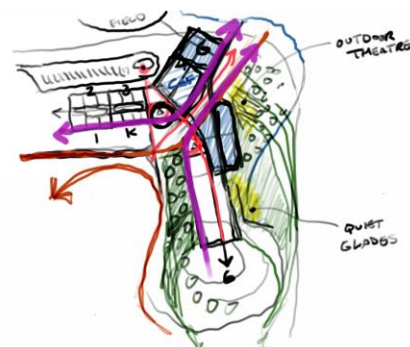
The School



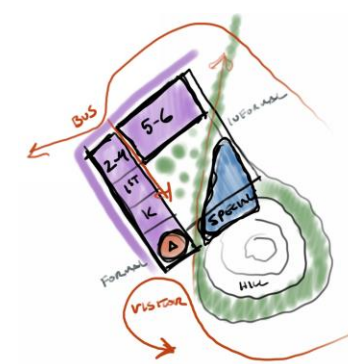
“Bridges”



Gate



Bridge



Court

Bus Drop Off

Wellness & Fields

Art / Music & Make

Middle School Wing

Elementary Wing

Public Entry

Bridges between

Elementary to Middle Years

Public to Personal

Townships to One District



Bridges between

Indoor to Outdoor
Fear to Bravery
Individual to Community
Hill to Hill
Reserved to Just In Time

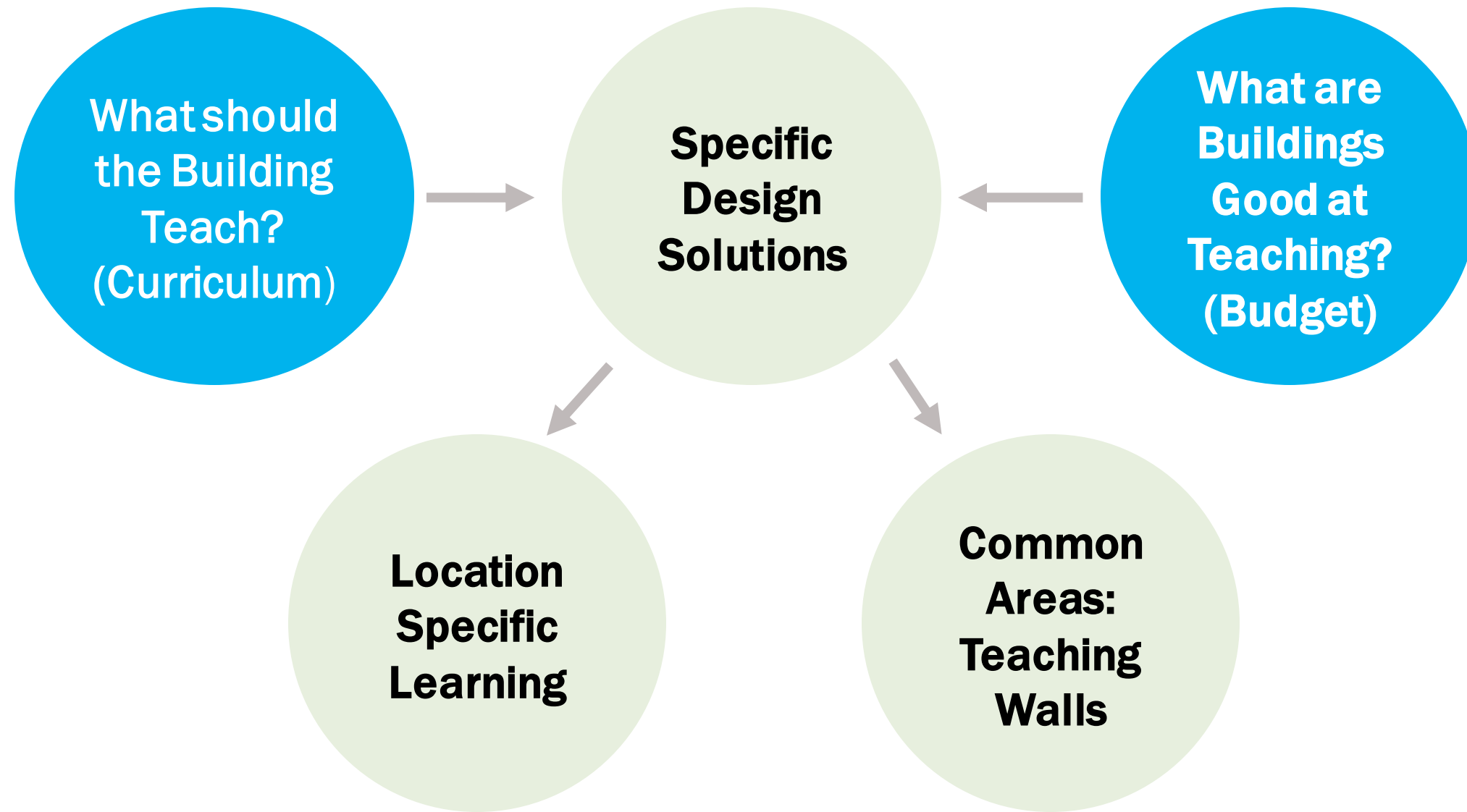


Bridges between



First to Second Floor
Reading to Movement
Think to Make
Grade Clusters to Community

Building as a Teaching Tool

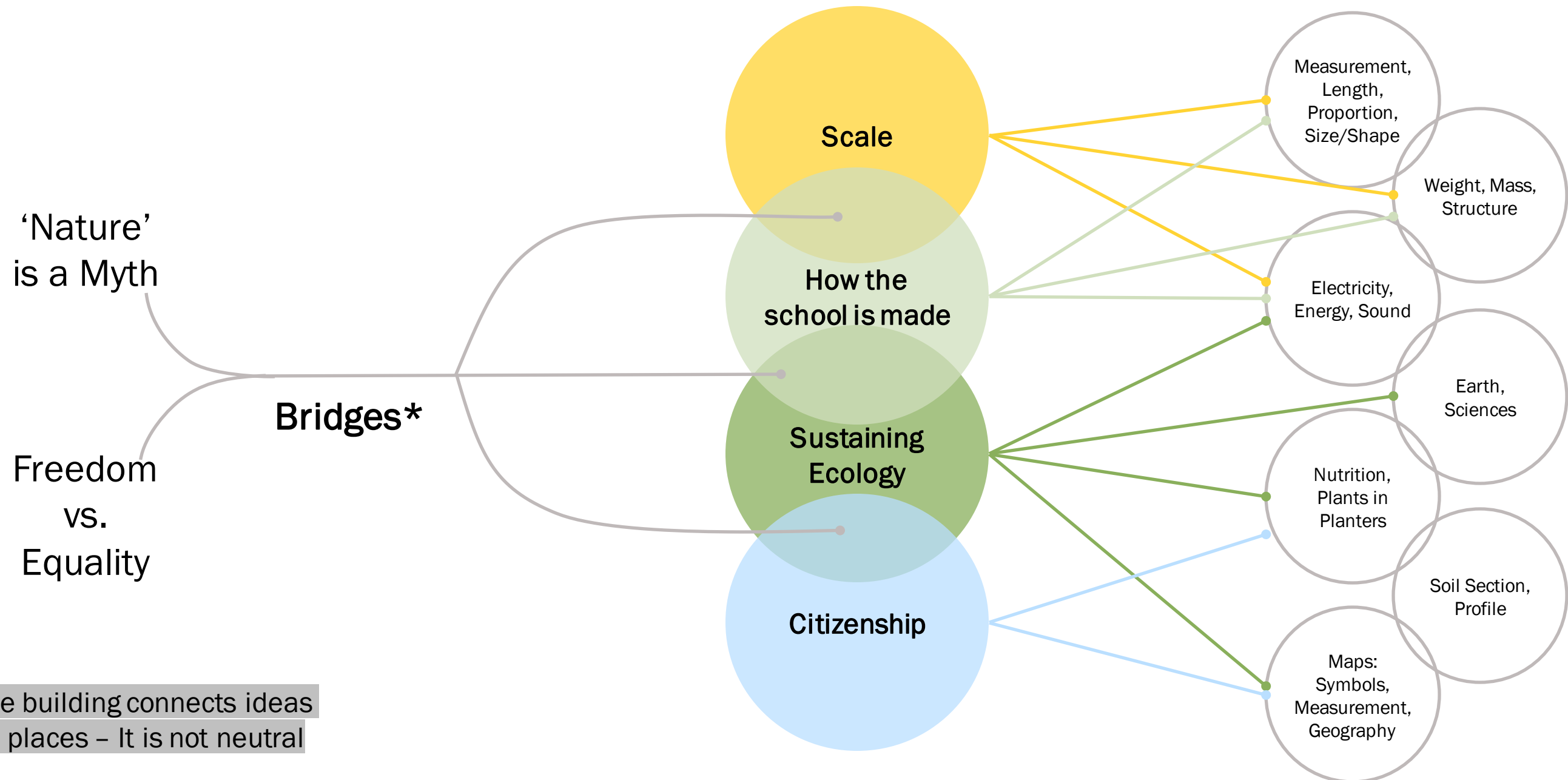


What Should the Building Teach?

Big Ideas

Essential Questions + Project

Subjects in Curriculum



*The building connects ideas and places – It is not neutral



HOW IS IT MADE

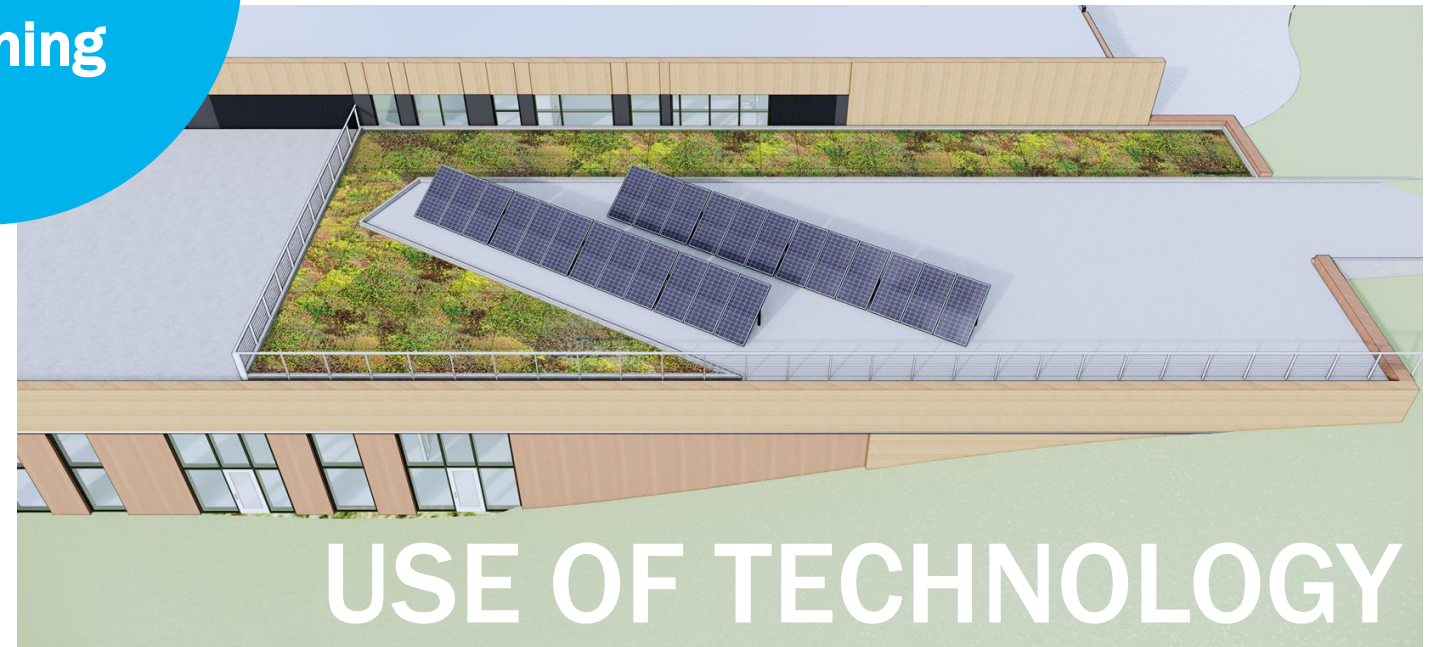


OUR PLACE ON EARTH

Location
Specific
Learning




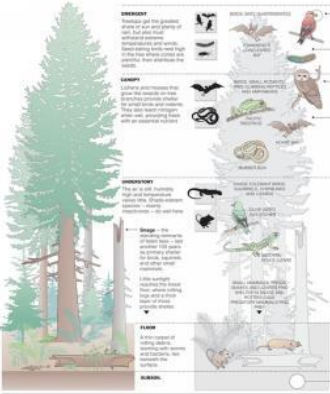
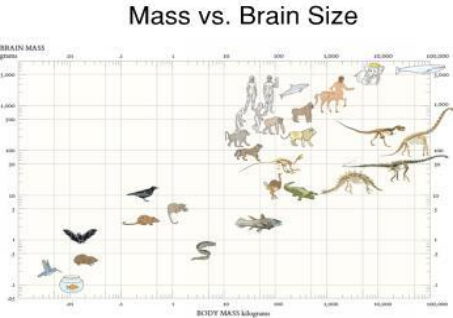

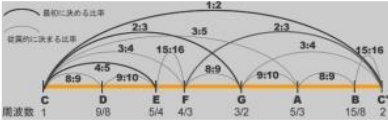
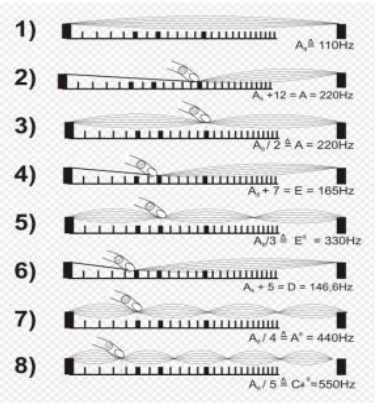



USE OF RESOURCES



USE OF TECHNOLOGY

Teaching Walls

Location/Grade	Topics	Tool Examples	Analog	Curated	Digital
K-2nd Elementary	Shapes Counting Base 10 Maps: symbols Plants & Animals Phonics	Yarn Charts: Point / line Area / surface Counting Base 10	 Shapes in Words	 Identity & Community	 Emotion App
3rd-4th Elementary	Electricity Earth Sciences Measurement Graphs / Angles Maps: Tools Reading Proficiency	Scatterplot Wall: Graphing Comparative Measurement Biodiversity Ecology	 Ecology of a Tree	 Graphic: Carbon Molecule Matrix	 Live Nature Cameras
5th-6th Middle School	3D plotting Soils / Hydrology Ecosystems Fractions Algebra Language: performance	Harmonics Wall: Waves Sound Energy Curves Fractions	 Waves and Fractions	 Graphic: Waveform / Double Helix	 Sound Wave Simulators

Teaching Walls

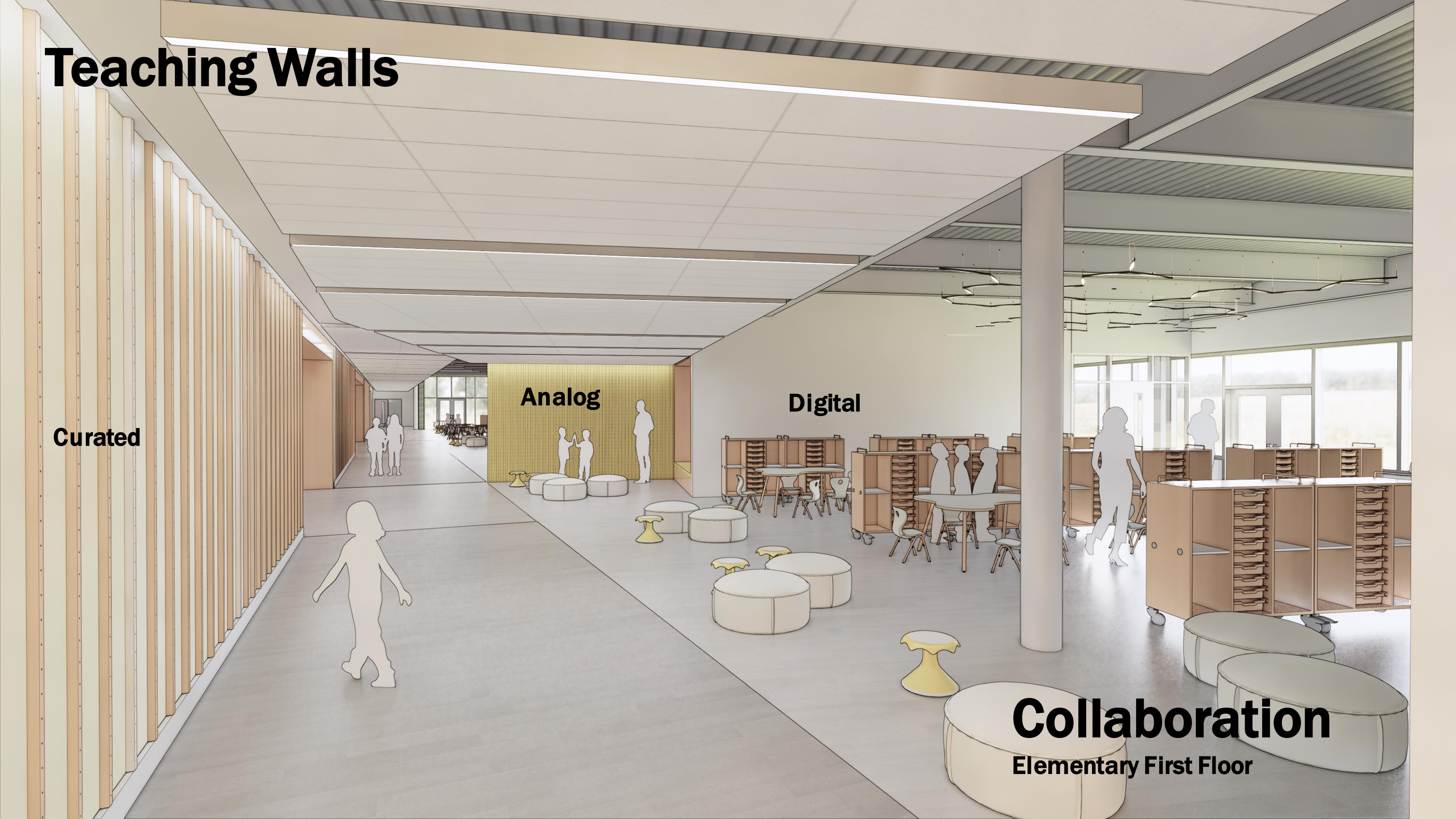
Curated

Analog

Digital

Collaboration

Elementary First Floor





Vertical Peg Board



Flexible / Durable

+



Color & Pattern

+

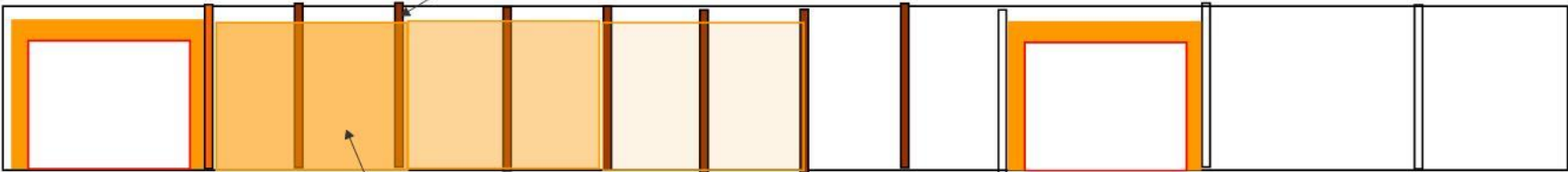


Interactive

+



Collaboration
Walls

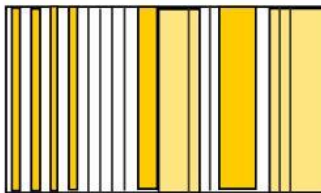


Classroom
Portal

Color way tone or graphic
Engaging at 3 scales

Classroom
Portal

Analog
Walls



"Butcher block" of
120 x 2" wide 60 r

Magnetic Environmental Graphic Maps




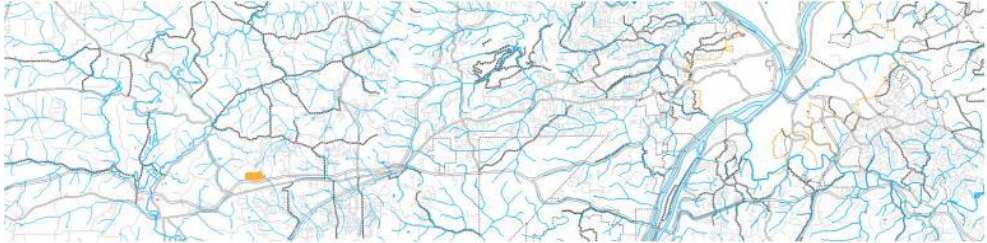

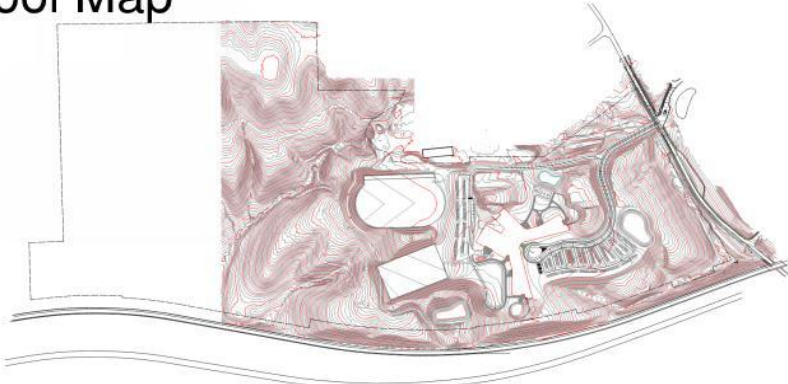
Graphics + Iterations

- | | | | |
|--------|--|---|--|
| Topics | -Geography
-Languages
-Ecosystems
-Resources
-Ancestry | -Base 10
-Maps: Symbols
-Plants + Animals
-Citizenship: Resources
Citizenship: Jobs | -Site Water/Hydrology
-Species Identified/Counted
-Design Ideas, Next Buildings
-Future Events
-Room Recognition/Award |
|--------|--|---|--|



Magnetic Environmental Graphic Maps

Graphic Walls: Magnetic Map walls

Location	Topics	Graphics & Interactions	
2 Story Entry Wall	Geography Languages Ecosystems Resources Ancestry		World Map 
Dining Wall Elementary	Shapes Counting Base 10 Maps: symbols Plants & Animals Citizenship: Resources Citizenship: Jobs		Region Map 
Lobby Stair	Site Water / Hydrology Species Identified / Counted Design Ideas, Next Buildings Future Events Room Recognition / Award		School Map 













Ehrman Crest Elementary School / Ehrman Crest Middle School
Twinning OH, Completed 5/2021

CIRC







BE KIND
BE BRAVE
STAND TALL
BE SILLY
BE YOU

2013



* Our Class Rules
1. Be kind
2. Look happy
3. Make mistakes

B

0 1 2 3 4 5 6 7 8 9



LET'S
START
OUR DAY
RIGHT













Thank you for joining

