

SERVICE IN SCIENCE

"How science classrooms can cultivate relationships —with the Land,
with communities, and with future generations?"



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Who's in the room



Background:

- 6th grade Curriculum designer for ISI
- Chicago → Oxford, OH → Navajo. NM → ABQ → PHX
- Currently teaching on Tohono O'odham land at Phoenix International Academy

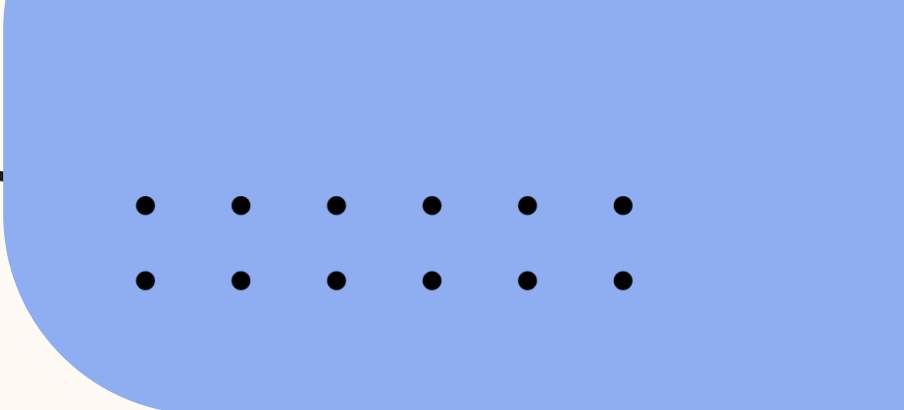
Land connections

- Mauston, WI (Ho-chunk)
- Point Pleasant, NJ (Lenapehoking)
- Hon dah, AZ (WMAT / N'dee)

Roles

- Father
- Husband
- Kombucha brewer



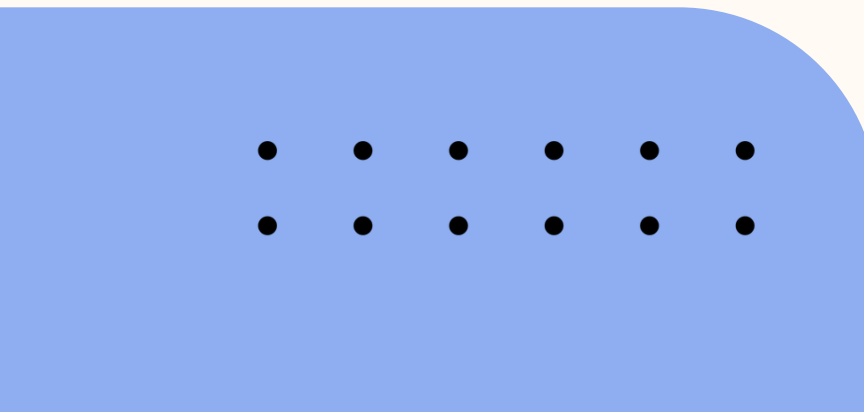


Grounding Circle

Reflection

- Think of a place that has taught / gives you something.
- It might be a river, a mountain, a neighborhood park, a backyard, or somewhere from childhood.
- What has that place given you?
- How have you—or how could you—give something back?

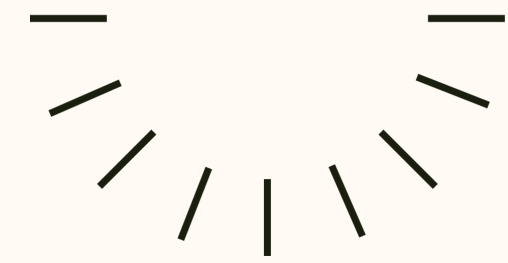
Share out

- Name
 - Where do you teach
 - Your Place
 - A few words describing your relationship to this place
- 
- 

What are we working towards



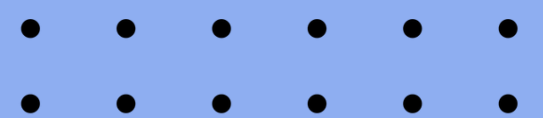
1. Define **service** and **relationality** within the context of science education.
2. Examine examples of science projects that center **community**, **relationality**, and **authentic** demonstrations of learning.
3. **Redesign** or **create** a science project that incorporates **relationality**
4. Identify classroom **practices** that help develop relationality mindsets



How will we get there



1. Introduction
2. Opening and Grounding
3. Defining relationality and service
4. Project Critique - what can relationality look like in science?
5. Community Workshop
6. Relationality Practices
7. Closing and Feedback

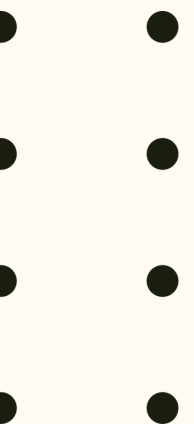


Defining Service

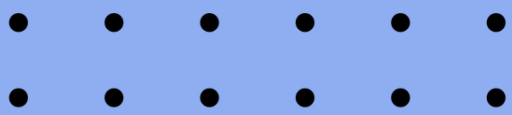


When you hear the word **service**, what comes to mind?

Use post-its to jot down your ideas (pictures, bullets, sentences)



Service and Relationality Framework

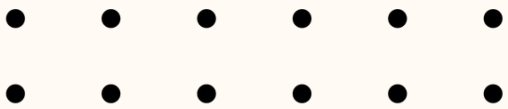


Using **knowledge** and **skills** in ways that strengthen **relationships** and contribute to **community well-being**.

What do students need to know?

Who / What are they building relationality?

How will they contribute to the well-being of their community?





Canopy for Kids

Designing a School Rain Garden

Driving Question

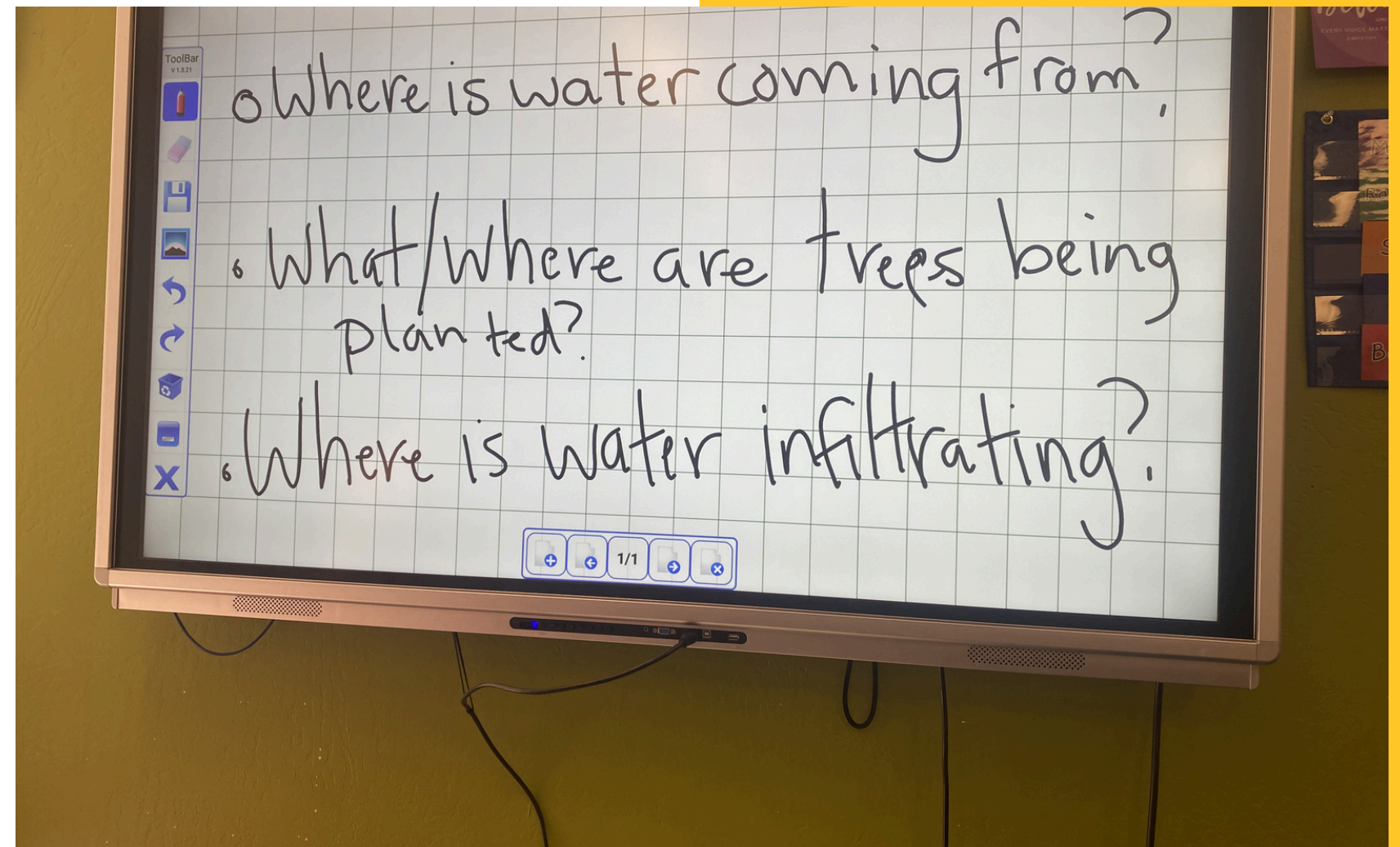
.In what ways can young people take action to improve their communities and environment?

Performance Task

Research, design, and build a school rain garden

Student Investigations

- "What do you do when it rains at your school?"
- "Where does water move? Where does it stop moving?"
- "How can we better capture water when it does rain?"
- "How we do intentionally design spaces in urban environments?"

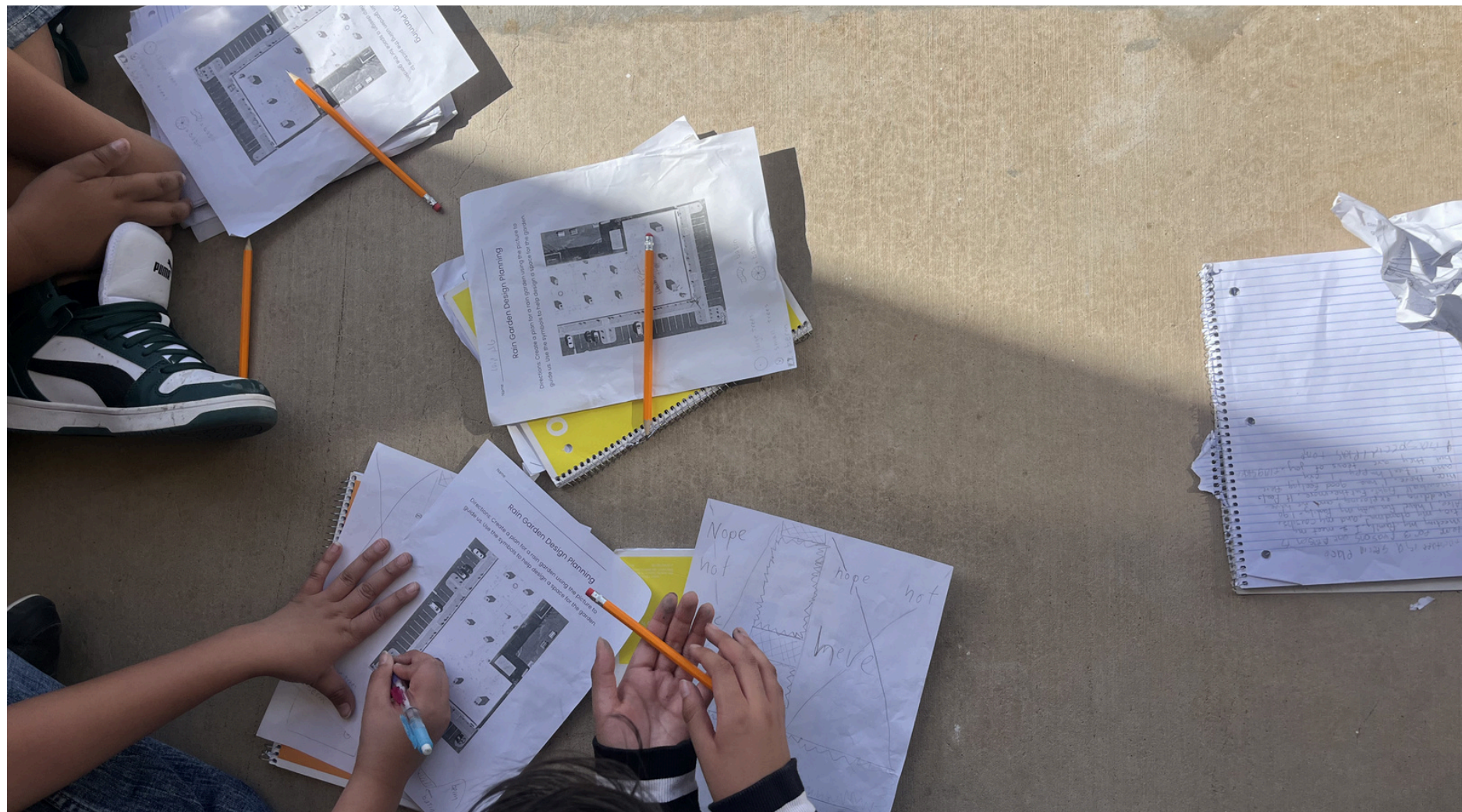


Learning from Experts

- WMG Visit to PIA
- Monday 11/17/25
- Key takeaways:
 - infiltration and runoff are influenced by different surfaces
 - run-off can create major dangers in urban areas
- Students wanted to build their own



Student Designs





32 Trees Planted Feb
13,2026.

Student Learning

- Water harvesting and rainwater management
- Native plants vs. Invasive plants and impact
- Water cycle and watershed connections
- Elements of design



Before Installation

- Installation Date: February 23, 2026
- 10+ expert staff from WMGT and ASU
- 12 parent volunteers
- 26 students
- 2 staff



Installation Day



What we planted

- 33 total trees
- Native Trees Species
 - Hackberry
 - Palo verde
 - Palo blanco
 - Iron wood
 - Desert willow



After Installation

- 32 trees thriving
- Weekly monitoring from science classes & advisories
- 13 trees adoptions by grade levels



Community Impact

- Parent involvement advocacy
- Extension Activities in science classes
- Spring Bloom Service Projects

“When we dream, let’s dream for our community, too.”



Student Growth & Ownership

- Spring Bloom Community Events
 - Seed bomb making
 - Chalk-the-walk
 - Kindness Rock Painting
- Relationality and reciprocity in Learning



Looking Forward

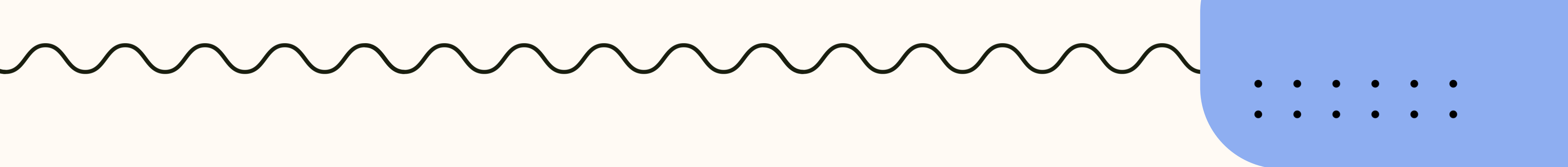
- Monthly advisory wellness checks
- Incorporation of medicinal and native plant species
- Projects-based Learning
- ***Service in Science***



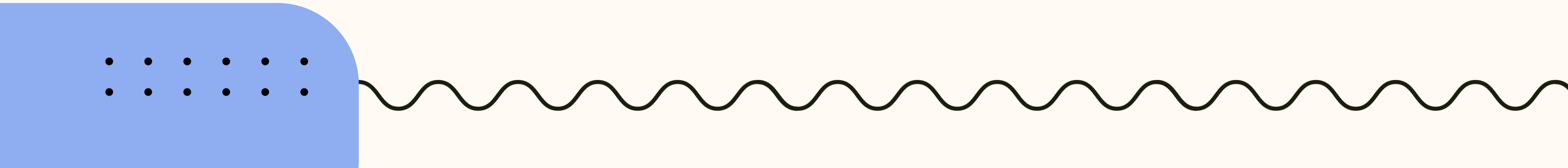


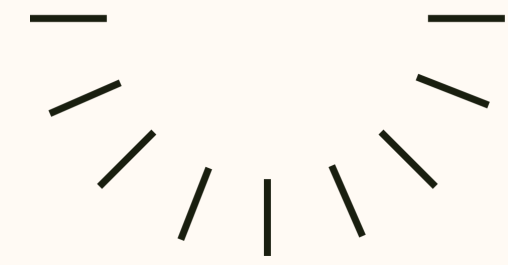
CANOPY FOR
KIDS





5 Minute Break



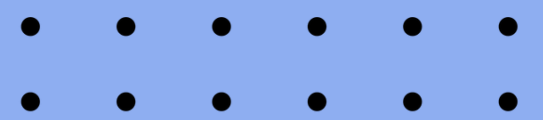


Designing for Service



1. **Choose a project, unit, or topic you might teach this year**
2. **Using the graphic organizer, consider to design an outline for a project**
 - a. **What skills and knowledge do students need to know?**
 - b. **Who / what will students build relationality with?**
 - c. **How will students contribute to the well-being of their community?**

3. **Discussion - Hand-up, Stand-up, Pair-up**



Designing for Sercie

Knowledge & Skills



- Standards
- Competencies
- Values
- TEK

Relationality



- Families
- Younger students
- School
- Tribal community
- Neighborhood
- Local ecosystems
- Community organizations

Demonstration / Exhibition

- Restoration project
- Public presentation
- Educational resources
- Citizen science report
- Habitat improvement
- Community recommendations
- Data collection
- Interpretive signs



Building a Culture of Relationality

What routines help students see science as responsibility and relationality rather than simply achievement?

- Regular observation of local ecosystems
- Gratitude before field investigations
- Reflection after investigations:
- "What did we learn from this place?"
- Community experts as knowledge holders
- Students identifying community questions
- Public audiences for student work
- Reflection on impact instead of only grades

Closing

After today's conversation...

- What responsibility do you feel as a (science) educator?
- What is one small commitment you'll make this year?

On your Index card

What is one way you can support students being in good relationship with the Land and each other this year?

