



Schoobio:

Schoolyard Biocultural Diversity Community

The Schoolyard Biocultural Diversity Community (Schoobio) empowers middle and high school teachers and students across the globe. Teachers use experiential and place-based learning methods through a Universal Design for Learning (UDL) lens to unleash the potential for ecological school grounds to increase biocultural diversity and connect students with the natural world and with each other through international, student-driven projects.

Schoobio Outcome:
Bioculturally diverse, ecological school grounds

SDGs Lesson 1

School grounds mapping and culture Lesson 2

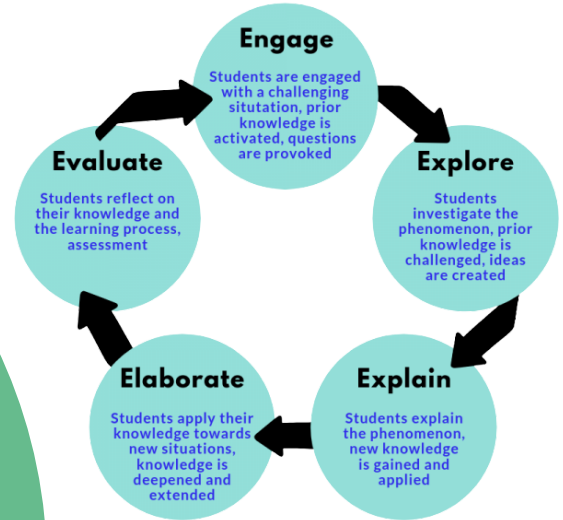
Biodiversity Inventory Lesson 3

Data viz Lesson 4

Envision your ideal school grounds - Lesson 5

Civic engagement Lesson 6

Reflection Lesson 7



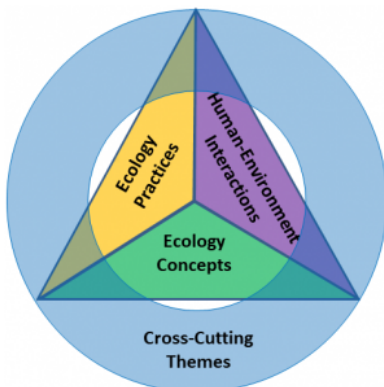
5-E's of Inquiry-Based Learning

knowledgequest.aasl.org

You can participate!

- Give input on lessons
- Pilot test
- Be notified when curriculum is disseminated

Fill out the Google form here:



esa.org/4DEE

4DEE Framework ties:

- Core Ecological Concepts
- Ecology Practices
- Human-Environment Interactions
- Cross-Cutting Themes



SCHOOBIO.EARTH

Schoobio.earth is still in development. Check back for updates.



Schoobio

An Interdisciplinary, Global Curriculum Building Student Engagement to Increase Biocultural Diversity on School Grounds

*The Ecological Society of America/
Canadian Society for Ecology & Evolution
Annual Conference, Montreal, Canada
14 - 19 August 2022*

PROBLEM

Biodiversity loss
Cultural diversity is not represented on school grounds
Teachers need tools to implement experiential learning
Nature deficit in youth
Lack of opportunity to share data with other students



IMAGINE...

...WHAT COULD HAPPEN if students became citizen scientists, interacting with others around the world, sharing data and designing biodiversity projects?
...THE INCREASED BIODIVERSITY if school grounds went from asphalt and monoculture grass to ecosystems?
...HOW INCLUSIVE SCHOOL GROUNDS could be if they reflected the cultures of their students?

SCHOOBIO.EARTH

The Schoolyard Biocultural Diversity Community (Schoobio) empowers middle and high school teachers and students across the globe. Teachers use experiential (Marzano, 2017) and place-based learning methods, unleashing the potential for ecological school grounds to increase biocultural diversity and connect students with the natural world and with each other through international, student-driven projects.

BIOCULTURAL DIVERSITY

- Biocultural diversity is the diversity of life in all its manifestations: biological, cultural, and linguistic – which are interrelated within a complex socio-ecological adaptive system (Maffi, 2007).
- Schoobio incorporates this concept through activities that encourage students to discover and gain respect for their own and other cultures
- Findings become part of their ecological schoolyard design

QUESTIONS

- How can curriculum effect ecological change on school grounds?
- What impact does learning about biodiversity and culture have on student attitudes about representing these concepts on their school grounds?

ACTIVITIES



Photos used with permission

CITATIONS

Maffi, L. (2007). The SAGE handbook of environment and society (J. Pretty, et al., Eds.). SAGE Publications Ltd, p. 269.
Marzano, R. J. (2017). The New Art and Science of Teaching. Solution Tree Press.
Ralabate, P. K. (2016). Your UDL Lesson Planner: The Step-by-Step Guide for Teaching All Learners. Paul H. Brookes Publishing Co, Inc.

SCHOOBIO DESIGN

Schoobio consists of three parts:

- PART 1:** Transdisciplinary curriculum using Universal Design for Learning (Ralabate, 2016): Module of place-based, authentic experiential learning activities:
- mapping;
 - data sampling methods;
 - inventory of plant and animal species;
 - species identification;
 - communication tools; and
 - cultural explorations
- PART 2:** Online database: Schools will enter their species data at schoobio.earth:
- When scaled up, students will form international partnerships on projects
 - Example: Students in Kansas, Kenya, and Ukraine can design a project to study butterflies
- PART 3:** Students effect change on their school grounds:
- Practice civic engagement to increase biodiversity and cultural representation on their school grounds
 - Create their own designs and present their ideas to school leaders

NEXT STEPS

- Finalize activities and format lessons
- Field test curriculum and gather feedback from teachers
- Seeking partner(s) to support 'scale up' to a fully online, commons tool.



ACKNOWLEDGMENTS

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