



Educating for Sustainability Lab (EfS)

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Engineering the Greenest Possible School Buildings PBL/STEM/NGSS Workshop for Secondary Teachers and all interested others!



Featured Site:

Pine Lake Middle School
Mahlum Architects

What if a building could teach?

This Lab takes place in the newly constructed **Pine Lake Middle School** in the Issaquah School District and features *real-world curriculum resources* gleaned from technical documents, construction images, engineering drawings, and computer models, plus a *guided tour of the facility* with a focus on the latest advances in green building systems and design.

The Lab is organized around the following Problem Statement: ***“How can we optimize the conservation of energy and water in our school buildings? What are the challenges for school buildings striving for net zero energy and net zero water?”***

STEM literacy learning opportunities for both science and non-science educators will be explored across multiple disciplines. Sample NGSS aligned curriculum will be shared and participants will walk away with at least three lesson ideas or phenomena-based entry points.

REGISTER TODAY! Includes technical tour with project architect

- Who:** Secondary Teachers (Science, Social Studies, ELA, CTE)
- Invited:** All interested student leaders, PTA members committed to driving sustainable practices, and other professionals from local government, utilities, and the green building industry such as members of the Association for Learning Environments
- Clock Hours:** Regular and STEM Clock Hours are available (3 total)
- When:** Tuesday, January 15, 2019, 3:30-6:30
- Food:** Healthy, local food provided!
- Location:** Pine Lake Middle School, 3200 228th Ave SE, Sammamish
- Facilitation:** Peter Donaldson, Sustainability Ambassadors and Jeff Burgard, Science Educator

Go to: www.sustainabilityambassadors.org/events. FREE but space is limited. First priority is for teachers from Issaquah School District. Info or Questions? Email: peter@sustainabilityambassadors.org

Learning Targets for Workshop Participants

1. Apply all four STEM disciplines along with the financial and policy challenges for school buildings striving for net zero energy and net zero water.
2. Review STEM career choices related to building and maintaining the greenest possible school buildings.
3. Identify at least three lesson ideas, phenomena, or entry points that help you enhance local relevance for meeting standards in STEM/NGSS, Social Studies, or ELA.
4. Outline data collection methods for student impact projects and a protocol for reporting to stakeholders.

AGENDA ELEMENTS

Break down the problem statement into phenomena and related inquiries. What do we know about green building systems applied to schools? Produce an initial mind-map of lesson ideas, phenomena, or entry points aligned with selected standards.

Lead architect provides guided tour of green building systems.

Deep-dive on current STEM elements, economic, and policy challenges

- How close are we to net zero energy?
- How close are we to net zero water?

Explore “reverse engineering” classroom resources

- Construction photos / engineering and architectural schematics, CAD modeling
- Graphs, spreadsheets, building performance tracking, EUI
- Associated policies, regulations, plans, permits
- Green building job descriptions (career pathways) for a range of associated roles

Explore opportunities for student action, data collection, and a protocol for reporting to stakeholders. Refine, share and critique lesson ideas, phenomena, or entry points.

Ready to Register? www.sustainabilityambassadors.org/events

About the EfS Lab

[Sustainability Ambassadors](http://www.sustainabilityambassadors.org), a non-profit organization based in King County, Washington, facilitates a year-round **Educating for Sustainability** series of inspiring, problem-based, place-based learning experiences for teacher leaders, student leaders and community leaders. The goal of each EfS Lab experience is to meet academic standards in context of the actual challenges that communities are trying to solve. Rigor meets relevance. The EfS Lab series aligns with two critical educational frameworks. The first is [OSPI’s Education for Environment and Sustainability Program](#) supports academic success and life-long learning, and to develop a responsible citizenry capable of applying knowledge of ecological, economic, and socio-cultural systems to meet current and future needs. And the second is the US Green Building Council's Center for Green Schools’ [National Action Plan on Educating for Sustainability](#) which envisions a school system where all students graduate educated for a sustainable future through the integration of the environment, economy, and equity, with the ability to apply systems thinking to community problem solving and decision making.