AK EnergySmart

Alaska’s K-12 Energy Efficiency Curriculum

www.akenergysmart.org

Katie Croft
Renewable Energy Alaska Project (REAP)
An energy-literate person:

- Can trace energy flows and think in terms of energy systems.
- Knows how much energy they use, for what purpose, and where the energy comes from.
- Can assess the credibility of information about energy.

*Source: USDOE*
ENERGY LITERACY

An energy-literate person:

• Can communicate about energy and energy use in meaningful ways.

• Is able to make informed energy use decisions based on an understanding of impacts and consequences.

Source: USDOE
Energy Literacy Principles

1. Energy is a physical quantity that follows precise natural laws.

2. Physical processes on Earth are the result of energy flow through the Earth system.

3. Biological Processes depend on energy flow through the Earth System.

4. Various sources of energy can be used to power human activities, and often this energy must be transferred from source to destination.

5. Energy decisions are influenced by economic, political, environmental, and social factors.

6. The amount of energy used by human society depends on many factors.

7. The quality of life of individuals and societies is affected by energy choices.
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- Funded by the Alaska Housing Finance Corporation (AHFC) in 2011-2012, 2014-2015; developed by the Alaska Center for Energy and Power (ACEP) and Renewable Energy Alaska Project (REAP)

- Content reviewers:
  - Cold Climate Housing Research Center
  - Alaska Native Knowledge Network
  - Juneau Economic Development Council’s STEM Program
  - Pilot teachers from around the state
• **Purpose:** give Alaskan youth a better awareness of how they use energy and the importance of taking measures to use energy wisely both at home and school

• Alaska-specific; designed with Alaska’s unique cultures, environments, and energy challenges in mind

• 23 lessons from Kindergarten to Grade 12
• **What are various forms and sources of energy?**

• **How do we use energy?** What various energy efficiency options are available?

• **Why should we care about energy efficiency?** How can demand side energy efficiency and conservation and generation side energy efficiency reduce overall energy consumption and why is that important?

• **What direct steps can I take in my school and home to lower consumption?**
Standards Alignments:
- Alaska English Language Arts and Mathematics Standards
- Next Generation Science Standards
- Alaska Science Grade Level Expectations
- Alaska Cultural Standards
- Alaska Technology Standards
WWW.AKENERGYSMART.ORG

- Houses all lessons and corresponding worksheets/multimedia
- FREE to download and use
- Links to further resources and testimonials
WHAT WE OFFER

- Access to AKES lessons
- Teacher trainings in hub communities
- Classroom visits to model the curriculum
- Free kits including Kill-A-Watt meters and other supplies that support the curriculum mailed anywhere in AK
• Educator workshops and classroom visits around the state

Teacher workshop in Fairbanks

Classroom visit in Anchorage

Classroom visit in Kokhanok
OTHER ENERGY EDUCATION PROGRAMS
• “I appreciate the AK focus; this is not often seen in energy curriculum yet we have some specific challenges to address.” – Alaskan educator

• “I like that the lessons are appropriate for our students, and the age group I'm teaching, easily adaptable, and can lead to other energy topics.” – Alaskan educator

• “I found the lesson on building your own home particularly useful. I feel it would be interesting to see kids’ reactions when they realize how much energy they go through.” – Alaskan educator

• “More teachers should be utilizing this curriculum and resources. Students should be learning about this NOW!” – Alaskan educator