KINDERGARTEN CURRICULUM

Ending project: Testing and Cooking with Solar Hot Water

Lesson I: Kindergarten

What is Energy?

- Brainstorming activities to begin discussion
- Discussing 1 form of energy: mechanical

Lesson 2: Kindergarten

Energy Conversion

- Introduce thermal and electrical energy
- Experiments to explore energy conversions, for example:
    - Mechanical energy into thermal energy (rubbing hands together, running in place)
    - Mechanical energy into electrical energy (dynamo flashlight–hand powered flashlight)

Lesson 3: Kindergarten

Energy Theatre

- Students learn and act in an Action Story about energy conversion
- The cast of characters: Energy, Mechanical Energy, Thermal Energy, Embodied Energy, and Chemical Energy

Lesson 4: Kindergarten

What is Potential Energy?

- Discuss potential energy of food and sun and their uses in our daily life
- Brainstorm why might we heat water
- Brainstorm different ways to heat water

Lesson 5: Kindergarten

International Study: Reading Books

- Read 3 books introducing how people live throughout the world (2 books by Ann Morris and 1 book by Barbara Kerly)

Lesson 6: Kindergarten

International Water Study

3 Focus Countries

Discuss location, climate, daily life, and water use of Kenya, India, and Haiti

Lesson 7: Kindergarten

Energy Potential: Different Ways to Heat Water

- Brainstorm what different ways people might heat water in Kenya, India, and Haiti
- Discuss different sources of fuel: wood and sun

Lesson 8: Kindergarten

Testing Water Temperature: Using the Sense of Touch

- Students will "measure" water temperature through their sense of touch
- Arrange and compile findings

Lesson 9: Kindergarten

Solar Hot Water
Comparison Study

- Using a solar hot water bag (Solar Shower) to heat water measure temperature of water every 1/2 hour
- Record and graph findings

Lesson 10: 1st Grade

Solar Hot Water
Making Treats

- Heat water in the solar hot water bag (Solar Shower)
- Make drinks and soup with the heated water