



**The NEED Project**  
**2018 National Energy Conference for Educators**  
**July 8-12, 2018**  
**Galveston, TX**

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**July 8 Registration, Introduction to NEED**

- 2:30 p.m. Registration**  
– **3:30 p.m.** Pick up your registration packet and other materials.
- 2:30 p.m. Blade Design Challenge**  
– **4:15 p.m.** Your world still spinning from travel? Jump in and harness that energy to create a model wind turbine and see how much electricity you can produce!
- 4:15 p.m. Introduction to the National Energy Conference for Educators**  
Learn more about NEED, who we are, why we matter, and why we are glad to have you as part of the NEED program. Use Energy Bingo to get to know other participants. The conference sessions are designed to improve your own energy knowledge as a consumer, to provide you lessons and activities to return to the classroom with, and to allow you to explore ways to integrate more energy into your classroom programs.
- 5:00 p.m. Kids Teaching Kids – Student Recognition**  
See examples of the winning projects and how other teachers have used NEED both in the classroom and in after school settings.
- 5:15 p.m. NEED Resources, Q&A, Planning Guide Connections, Evaluation**  
There are note cards on each table to provide written questions to be answered for the group or individually – use them for content or process questions as well as logistical and conference questions. The NEED Resource Catalog and Planning Guide is designed as the Teacher Guide for a NEED unit. This session will connect the day’s activities to the Planning Guide in order to help participants fully utilize the guide.
- 5:30 p.m. Dinner**

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**July 9 Science of Energy, Sources of Energy, and Electricity**

- 6:30 a.m. Breakfast**
- 8:00 a.m. Science of Energy**  
These breakout sessions explore the forms of energy and energy transformations.  
Science of Energy for Elementary/Intermediate  
Science of Energy for Intermediate/Secondary  
Energy Works  
Thermodynamics
- 10:10 a.m. Connecting Energy Education to Your Science Standards**
- 10:30 a.m. Break**
- 10:45 a.m. Forms of Energy to Energy Sources – Energy Expos**  
How do the forms and sources connect? Break into small groups to learn more about the energy sources we use. Using the Secondary Energy Infobook and other resource materials, prepare an Energy Expo highlighting sources of energy, transportation fuels, electricity, and energy efficiency and conservation.  
Energy Sources  
Energy Efficiency  
Transportation Fuels  
Museum of Solid Waste
- 12:30 p.m. Lunch**
- 1:30 p.m. Energy Expo Explorations**

Participants explore the Energy Expo stations and compile information and data in science notebooks. Check in with the facilitators in the main room to answer questions about science notebooks. Participants will have an opportunity to vote for their favorite Expo board!

- 2:00 p.m. Introduction to Electricity Generation**  
How is electricity generated and moved to our homes and businesses?
- 2:30 p.m. Baseload Balance**  
Play the fast-paced Baseload Balance game, exploring how generation meets our energy demands.
- 3:00 p.m. Sources of Energy Sessions**  
These sessions explore the sources of energy, their advantages and disadvantages and current uses of the source.  
Primary and Elementary: Energy in the Balance  
Intermediate and Secondary: Energy Enigma
- 4:15 p.m. NEED Resources, Q&A, Planning Guide Connections and Evaluation**  
Completing the evaluation in your packet allows NEED to make improvements for the program in future years, but also provides feedback for curriculum improvements and training enhancements. Please complete your evaluation as the conference progresses in order to provide feedback while the activities are still clear in your mind.
- 4:45 p.m. Synthesizing the Conference**  
Working in grade level groups, participants synthesize the knowledge and process skills showcased during the day to discuss and plan integration into their classrooms.
- 5:15 p.m. Dinner on your own**

**July 10 Sources of Energy**

- 6:30 a.m. Breakfast**
- 8:00 a.m. Exploring Energy Break-out Sessions**  
Solar  
Oil and Natural Gas  
Hydropower  
Flipped Classroom Models
- 9:30 a.m. Break**
- 9:45 a.m. Introduction to Nuclear Energy**  
Learn about nuclear energy and how we use uranium to provide electric power.
- 10:00 a.m. Nuclear Simulation**  
Participants will become part of a nuclear reactor (simulation), demonstrating how power is produced by nuclear fission.
- 10:30 a.m. Understanding Carbon and Climate Change**  
Participants explore carbon dioxide and climate change with activities from NEED's Climate module. Greenhouse in a Beaker and Carbon Cycle Simulation

<b>Fieldtrip Group</b>	<b>Afternoon Activities Group</b>
<b>11:45 a.m. Pick up Boxed Lunch</b>	<b>11:45 a.m. Lunch</b>
<b>12:00 p.m. Bus departs for Houston Museum of Natural Science</b>	<b>12:45 p.m. Peak Oil –</b> Teams compete to make the most profit from their petroleum wells integrating new technology and following environmental regulations.
<b>1:30 p.m. Guided tour of Wiess Energy Hall</b>	<b>2:00 p.m. NEED Resources, Q&amp;A, Planning Guide Connections and Evaluation</b>
<b>After tour: explore more of the HMNS on your own</b>	<b>2:30 p.m. Synthesizing the Conference</b> Primary/Elementary Intermediate Secondary Non-traditional/All levels
<b>4:30 p.m. Board Bus to return to Hotel Galvez</b>	<b>3:00 p.m. Adjourn for the Evening; Dinner on Your Own</b>
<b>6-6:30 pm Arrive back at Hotel Galvez and Adjourn for the Evening (traffic dependent)</b>	

**July 11 Electricity and Energy Efficiency and Conservation**

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**6:30 a.m. Breakfast****8:00 a.m. – 12:00 pm Introduction to Energy Efficiency and Conservation**

Energy efficiency and conservation techniques and tools allow for wise use of our natural resources. This introduction highlights simple and low-cost ways to reduce energy consumption and the science behind efficiency.

**Investigating Energy Use**

Participants will split into groups to investigate energy use in the conference building using simple energy management tools. Play the Energy Efficiency Web Game in your small group! Learn about Student Energy Teams and how to implement them in your school.

**Energy House**

Working in small groups, create the most energy efficient house!

**This Week in Energy Conservation, Energy Stories and More, Energy Rock Performances**

These activities allow for interdisciplinary integration of language arts skills. Groups make quick presentations about energy conservation at home and on the road.

Group 1	Group 2	Group 3
8:00 a.m. Introduction to Energy Efficiency	8:00 a.m. Energy House	8:00 a.m. Energy House
8:30 a.m. Investigating Energy Use	9:15 a.m. Introduction to Energy Efficiency	9:45 a.m. This Week in Energy Conservation
9:15 a.m. Energy House	9:45 a.m. Investigating Energy Use	10:45 a.m. Introduction to Energy Efficiency
11:00 a.m. This Week in Energy Conservation	10:30 a.m. Finish Energy House (30 minutes), This Week in Energy Conservation	11:15 a.m. Investigating Energy Use

**12:00 p.m. Lunch****1:00 p.m. Global Trading Game**

Participants will assume the roles of economic advisors, geologists and miners to learn about their assigned country's resources and needs before trading those resources with other countries.

**2:15 p.m. Break****2:30 p.m. Energy Explorations**

Participants begin to synthesize and reinforce energy knowledge.

Coal

Electricity and Circuits

Hydrogen

Student Energy Teams

**3:30 p.m. Synthesizing the Conference**

Working in grade level groups, participants synthesize the knowledge and process skills showcased during the day to discuss and plan integration into their classrooms.

**4:00 p.m. NEED Resources, Q&A, Planning Guide Connections and Evaluation****4:15 p.m. Energy Carnival and Participant Share-a-thon**

Thanks to the Kentucky NEED Regional Coordinators, participants will play Energy Carnival Games and earn drink tickets to enjoy beverages during this fun synthesis activity. Interested educators share what they are doing in their classrooms.

**5:00 p.m. Dinner****July 12 Transportation, Evaluation and Recognition**

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**6:30 a.m. Breakfast****8:00 a.m. Transportation Resources**

Participants explore the nation's leading transportation fuels.

**8:45 a.m. Synthesizing the Conference**

Working in grade level groups, participants synthesize the knowledge and process skills showcased during the week to discuss and plan integration into their classrooms.

- 9:15 a.m. Exploring NEED's Website and Other Resources**
- 9:45 a.m. What do I get?**  
Complete your order form for classroom energy resources.
- 10:00 a.m. Evaluation**
- 10:15 a.m. Planning Your Energy Unit**  
Have a later flight? Stick around for a little while and work with conference attendees and the facilitators to continue to refine your energy unit.
- 11:00 a.m. Adjourn**

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