

**Teaching Energy Transformations and Energy Sources
2021-2022 STEM Scale-Up Program**

Grade Levels: 3-12, available in school and out of school

Information Sessions: Feb 2, 2021 4:30 PM CST, <https://bit.ly/37LQSZY>

Website: www.need.org

Video Link: <https://youtu.be/j51LNU7Yap0>

Award Provides:

- [Science of Energy](#) classroom kit
- NEED Basic Curriculum Unit
- One-day regional in-person workshop
- Ongoing teachers support
- Stipend for workshop attendees
- Workshop mileage reimbursement

Additional Cost(s) to Awardee In 2021-2022:

No additional costs to awardees.

Approximate Sustainability Cost After Award Period:

\$25-\$35/year to replenish consumables

Program Summary:

Teaching Energy Transformations and Energy Sources will provide professional development, lesson plans and hands-on materials. Leveled curriculum provided to teach concepts at the elementary, intermediate and secondary levels.

This program includes

- Forms of Energy, Energy Transformations
- Renewable and Nonrenewable Resources
- Electricity and Iowa's Energy Picture
- Renewable Energy Engineering Design Challenges
- Energy Careers
- Interdisciplinary Activities
- Correlations to Iowa Core Standards

Participants will receive NEED's Science of Energy kit and a Basic Curriculum Packet. The Science of Energy kit includes materials, black-line reproducibles and lesson plans in three grade bands for hands-on learning about energy transformations as the basis for understanding the energy we use today. The kit is well suited for inclusive and differentiated classrooms, as it uses the same hands-on materials to cover transformations in the elementary, intermediate and secondary grade bands. The basic curriculum packet includes NEED's most popular activities as well as activities from the program workshops.

The NEED Project is a 501(c)3 nonprofit organization dedicated to creating an energy literate society. NEED programs explain the science of energy, sources of energy, electricity generation and transmission, transportation and efficiency and conservation at home and at school. Materials are designed for four levels – primary, elementary, intermediate and secondary. For the 2021-2022 school year, the program offered through the STEM Scale-Up program will focus on 3rd – 12th grade.

What is Required to Implement the Program:

- Participants should plan at least 8 class periods (or equivalent) over the course of the school year to teach the lessons.
- Attendance at one-day professional development workshop.
- Participation in the STEM Council Scale-Up Educator Survey.

Professional Development:

Teachers will attend a one-day hands-on regional workshop. The fast paced workshop will provide background information and experience with the classroom resources. Workshop attendees often cite NEED workshops as: *"The best professional development I've ever attended."*

Duration: One-day workshop

Date(s): Week of July 26, 2021

Location: Regional in-person workshops (virtual workshops if required based on local health and safety guidance – hands-on materials will be sent prior to virtual workshop for hands-on experience)

STEM Scale-Up Program Application Link: www.iowaSTEM.org/Scale-Up-Application