

# Energy Lessons and Activities for Solar Education

## Grades K-4:

- Let the Sun Shine Through: Students construct “Mystery Boxes” to explore qualities of light provided by the sun.
- Photosynthesis Promenade: Students simulate the process of photosynthesis through a whole-body demonstration.
- Renewable Candy Resources (5-8): Students play a competitive game to simulate consumption of energy resources.
- Shadows in the Schoolyard: Students measure shadow lengths to appreciate how the sun’s height and location in the sky varies throughout the day.
- The “Sun”wich: Students create simple food chains based on their lunch items.
- Sun, Wind, Water: Students use art skills to emphasize the role of energy in the water cycle.
- Taking Temperatures: Students use a thermometer to investigate how shading, coloring, and other factors affect temperature.
- What Renewable Energy Does for Me (5-8): Students analyze how sun, wind, and water contribute to their daily lives.
- What the Sun Does for Me: Students illustrate ways the sun’ contributes to their lives.

## Grades 9-12:

- Let the Sun Shine In: Students calculate how much solar energy contributes to their home or school heating.
- The Miracle of Solar Cells (5-8): Through a whole-body demonstration, students illustrate how solar cells produce electricity.
- Sustainable Communities (5-8): Students identify current energy use practices and incorporate renewable energy use into community planning.

Energy has often been called the currency of life. By using solar energy, we can increase sustainability of resource use and potentially increase our quality of life, economic activity, and the environment. KEEP’s solar energy lessons incorporate a variety of subject areas with easy-to-use, hands-on, minds-on activities designed to promote energy literacy.

## Grades 5-8:

- Energy Use in an Ecosystem: Students survey different environments and investigate how sunlight, soil moisture, temperature, and wind affect living elements—plants and animals—in an ecosystem.
- Food Chain Game (K-4): By playing an outdoor tag game, students simulate the transfer of energy between organisms.
- Over the Years (9-12): Students construct a timeline to interpret solar energy use throughout history.
- Shoebox Solar Cooker (K-4): Students build and use a simple solar cooker and experiment using the sun to heat food.
- Solar Transmissions: By learning about transmissions, students begin to explore the many aspects of building a solar car.

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