

# K-4 Energy Lessons for Distance Learning

These lessons:

- Allow students to work individually or through socially distanced groupwork
- Use limited shared equipment
- Can be conducted remotely

## Outdoor Explorations:

- Detecting Schoolyard Food Chains: Students research organisms in their schoolyard and create simple food chains involving those organisms.
- Shadows in the Schoolyard: Students measure shadow lengths to appreciate how the sun's height and location in the sky varies throughout the day.
- Taking Temperatures: Students use a thermometer to investigate how shading, coloring, and other factors affect temperature.
- What the Wind Does for Me: Students illustrate ways the wind contributes to their lives.

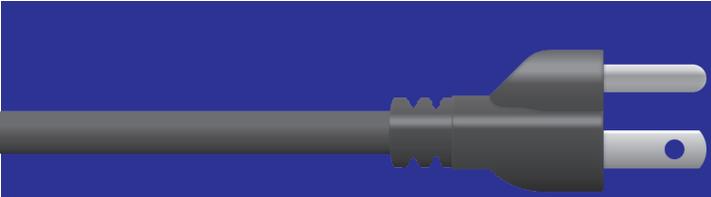
## Indoor Explorations:

- Digging for Coal: Students simulate the coal mining process using chocolate chip cookies.
- Pulling the Plug on Phantom Loads: Students identify classroom appliances that use electricity even when turned off and how using a power strip can save electricity.
- The "Sun"wich: Students create simple food chains based on their lunch items.
- What the Sun Does for Me: Students illustrate ways the sun contributes to their lives.

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# 5-8 Energy Lessons for Distance Learning

These lessons:

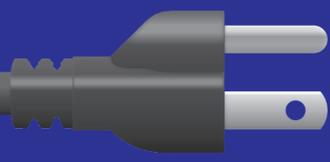
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- [Advertising Biodiesel](#) (9-12): Students evaluate and categorize advertisements that promote the development and consumption of energy and then design their own advertisement for biodiesel.
- [At Watt Rate](#) (9-12): Students complete a survey to determine how much electricity various appliances in their homes use.
- [The Cost of Using Energy](#): Students calculate the cost of energy used by various products found in the home and at school.
- [Geothermal Gazette](#) (9-12): Students will act as reporters assembling a newspaper on geothermal energy
- [People Power](#) (9-12): Students discover the difference between work and power by climbing stairs slowly and quickly and also learn to convert from one unit of power to another.
- [Reading Utility Bills](#) (9-12): Students recognize and interpret electricity and natural gas use patterns for one year by reading a set of utility bills.
- [Reading Utility Meters](#) (9-12): Students observe and interpret daily and weekly patterns of energy consumption by reading utility meters.
- [Siting for Solar](#): Using a simple method for identifying obstructions around a site, students learn to identify potential issues for solar gain at a particular location.

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# 9-12 Energy Lessons for Distance Learning

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- [Corn in Your Car](#) (5-8): Through mapping and research, students measure the availability of ethanol-blended fuels in their community, and the environmental benefits of using these fuels.
- [Driving Reasons](#) (5-8): Students calculate a car's fuel efficiency and analyze how to reduce fuel and environmental costs when driving.
- [Energy Prices and the Laws of Supply and Demand](#): By using the laws of supply and demand, students demonstrate how the marketplace sets energy prices and show how these prices change.
- [Green Home Design](#): Students design plans for a green built house.
- [Let the Sun Shine In](#): Students calculate how much solar energy contributes to their home or school heating.
- [Light and Your Load](#) (5-8): Students conduct lighting surveys to calculate the cost to light their homes and compare that to the cost of lighting their classroom.
- [Renewable World](#) (5-8): Through designing a class book, students will explore renewable energy use worldwide.
- [So You Want to Heat Your Home](#) (5-8): Students calculate the amount of energy needed to heat an average-sized home using different types of energy sources and different heating system efficiencies.

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