

GRADES 3-5

ACTIVITY 2 ENERGY POTENTIAL

Part 1. In Planet Power, we learn that our dependence on fossil fuels to provide electricity has caused pollution and contributed to climate change. To understand how traditional power plants produce electricity, use the word bank to complete these sentences describing the process. Check out these resources if you need help:

- **Understanding the Grid:** <https://energy.gov/articles/infographic-understanding-grid>
- **Electricity Explained:** https://www.eia.gov/energyexplained/index.cfm?page=electricity_delivery

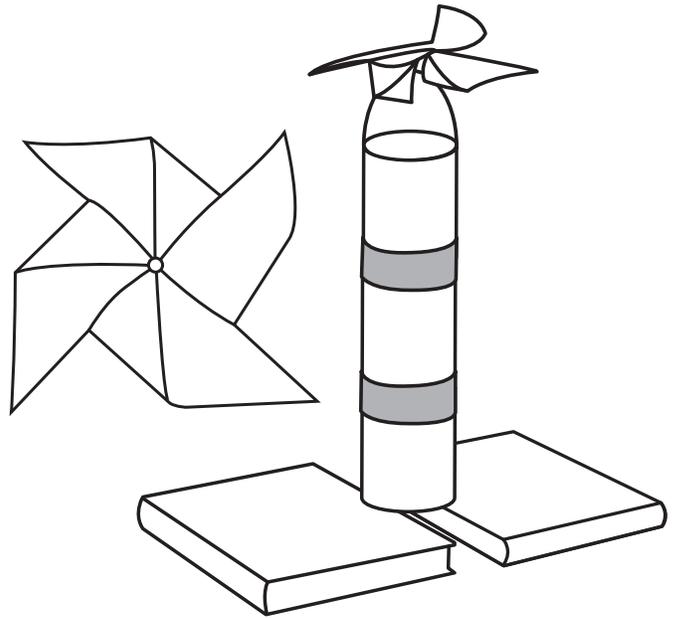
WORD BANK

fossil magnets steam turbine electric current

1. _____ fuels (coal, oil, or natural gas) are burned to generate heat.
2. This heat is used to boil water which, in turn, creates _____.
3. The result of that process moves a giant wheel called a _____.
4. The kinetic energy of the spinning wheel interacts with a series of _____ to produce electricity.
5. _____ is transmitted along wires to your neighborhood, and then into your home.

Part 2. Traditional power plants release greenhouse gases that warm the Earth. The fuels that they burn took millions of years to form, so they can't be replaced once removed from the ground or seabed. The flight of Solar Impulse 2 generated a total of approximately 11,000 kWh of energy as it soared up to 28,000 feet above the Earth's surface and traveled over 26,000 miles, using only light from the sun. Let's find out how we can produce energy from the power of the sun.

Follow your teacher's directions and the illustrations above to build a sun spinner. Decorate your spinner with colors and symbols that represent hope and the concept of working toward a better future for all. Then place your spinner in different locations with more or less sunlight. Use the chart below to record the speed (slow, medium, fast) and duration of the pinwheel's movement.



Now, with your teammate, write a summary that draws conclusions from the experiments your team performed:

Imagine you are choosing a site to install solar panels around your school. Based on this experiment, which location would produce the most energy?

Location	Amount of Sunlight (Dim/Normal/Bright)	Speed of Pinwheel	Duration of Spin (Time)
1.			
2.			
3.			