



Science Virtual Learning

4th Grade

Energy Sources

April 10, 2020



4th Grade Science
Lesson 15: April 10, 2020

Learning Target:

Students will tell how different types of sources can create energy.

Students will learn how fossil fuels and other natural resources can be converted into energy.

BACKGROUND KNOWLEDGE:

Review these important vocabulary words before beginning your lesson.

- **Energy:** the ability to do work
- **Generator:** a tool used to convert motion into energy
- **Magnet:** an object that attracts iron and some other materials
- **Tide:** the alternate rising and falling of the sea
- **Reservoir:** a large natural or artificial lake used as a source of water supply
- **Convert:** changing from one form to another
- **Pollution:** something introduced into the environment that is dirty, unclean or has a harmful effect

LET'S GET STARTED!

Watch this Video from our fabulous 4th Grade teachers. Then proceed to the next slide to click on the BrainPop video.

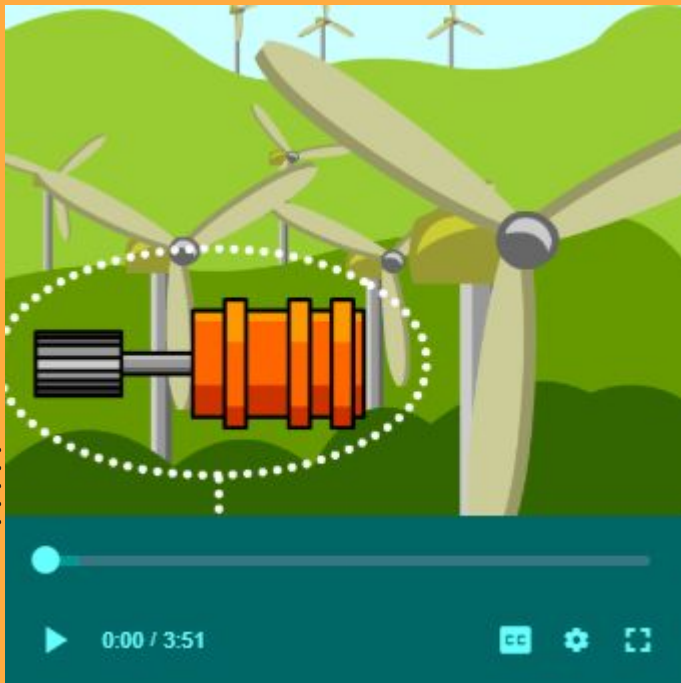


BRAINPOP VIDEO: ENERGY SOURCES

Click on the picture to start watching the BrainPop video about Energy Sources. Think about these questions as you watch and listen.

What source is not currently a source of usable energy?

What can you infer about fossil fuels from their name?



Where would you likely find a generator?

How do generators use magnets to create electricity?

DID YOU FIND THE ANSWER TO YOUR QUESTIONS?

If not, go back to the video and see if you find an answer to each of the questions on the previous slide. Then go check your answers on the next slide.

REMEMBER!

A generator is a tool that converts motion into electricity.

Some examples of fossil fuels include coal, oil, and natural gas.

A magnet is an object that attracts iron and some other materials.

CHECK YOUR THINKING!

Look below to see if your answers were correct!

1. What source is not currently a source of usable energy?

2. Where would you likely find a generator?

You can find a generator in power plants.

3. What can you infer about fossil fuels from their name?

Fossil fuels comes from old animal remains that have decayed in the earth.

4. How do generators use magnets to create electricity?

If you rotate a coil between the poles of a magnet, an electric current flows through the coil as it passes through the magnetic feild. You can use hydroelectric power can be used to turn a wheel called a turbine, which moves the generator.

VOCABULARY PRACTICE:

Create your own flashcards!

OPTION 1:

1. Find a piece of paper and cut it into eighths (or 8 equal pieces).
2. List the following terms on 6 of the cards, leaving 2 blank.
generate, turbine, geothermal, consumption, alternative, and fossil fuel
3. Write your own definition for each term on the back of the cards.
4. Choose two other terms from the video to write on the last two cards. Then have someone close quiz you on the definitions.

OPTION 2: Click on the link below and create digital flashcards.

[BrainPop Digital Flashcards](#)

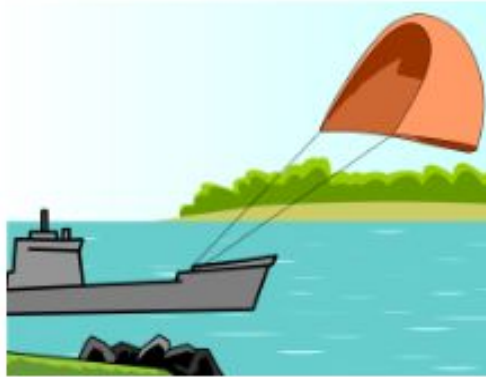
Just Around The Corner

For thousands of years, sailing ships used wind power to cross the seas. Today, most shipping is done with vessels powered by fossil fuels like oil.

However, as the price of fossil fuels rises, some innovators are looking toward the past as they map out the future of commercial shipping. But instead of using sails attached to masts, these new designers are experimenting with enormous kites!

A company called KiteShip is currently working on kites designed to move oil tankers, cruise ships, and other vessels. The company once built an enormous, 418-square-meter kite to help power an Australian racing yacht. In 2007 they announced that they were in talks to build a 1,200 square-meter kite designed to help pull ships that are more than 120 meters long.

Such a kite might cost almost \$2 million to manufacture—but the price is well worth it. The company estimates that the kite would cut a ship's fuel consumption by 10 to 20 percent, saving shipping companies an estimated \$400,000 per year. Oh, and the kite would also have another big plus: By decreasing the amount of fossil fuels used, it would be cleaner for the environment!



REAL-LIFE APPLICATION:

Read the article “Just Around the Corner” and think about how wind was used a source of energy.

1. Explain how boats can be pulled by the wind.
2. Do you think this is a good solution for ships that can't afford the cost of fuel? Explain why or why not.
3. Would you use a boat with a sail? Why or why not?

Describe It:

Explain how each of the following is used to produce energy.

Windmill	
Reservoir	
Solar Panel	
Fuel Cell	

SELF CHECK:

Click on the picture below to take the graded quiz on BrainPop.
Record your score to share with your teacher when you return!

