

Name: _____

Solar Energy: The Power of the Sun

by Kelly Hashway

We all know the sun is important. It provides for plants, animals, and people here on Earth. But how does the sun do that? It's the sun's energy that makes life on our planet possible.

Energy from the sun is called solar energy. It comes in the form of light or heat. Solar energy is what makes you feel hot when you sit in the sunlight. People have used solar energy for thousands of years. Houses were built with windows so that sunlight can get inside and provide heat. The sun's energy can also be used to heat water and even food. If you own a magnifying glass, your parents have probably warned you about leaving it in the sun. Solar energy can actually make the magnifying glass burn objects underneath it, causing a fire. This type of energy from the sun in the form of heat is called solar thermal energy.

We can also turn the sun's light into electricity. This is done with solar panels. Solar panels are made up of a material called silicon. The silicon is heated and formed into very thin wafers. When the sunlight hits the solar panel, the electrons (tiny particles) in the silicon move and flow through wires built into the solar panel. Using this technology, we can run a calculator and even power cars.



But what happens when a shadow or group of clouds blocks the solar panels? The electrons in the silicon will stop moving, which means the electricity can't flow. But this doesn't mean that solar energy can only be used on bright sunny days. Solar panels can have batteries attached to them to store electricity for a rainy day. When the sun is shining, the electricity flows from the solar panel into the batteries. This stored electricity can be used at night or on cloudy days.

Did you know that solar energy is not as expensive as it used to be? In fact, in the last few years, solar panels have become much more affordable for people to use. Since the sun gives off more energy in one second than people have used since the beginning of time, imagine what we could do if we used the sun's energy to power our planet.

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1. What are solar panels used for?
 - a. to block the sun's dangerous rays
 - b. to create light energy from the sun
 - c. to create heat energy from the sun
 - d. to create electrical energy from the sun

2. How is it possible to use solar energy from solar panels at night?

3. What are solar panels made of?
 - a. electrons
 - b. heat
 - c. silicon
 - d. hydrogen

4. What is solar thermal energy?
 - a. energy produced by solar panels
 - b. heat energy from the sun
 - c. energy stored in batteries
 - d. heat energy from water

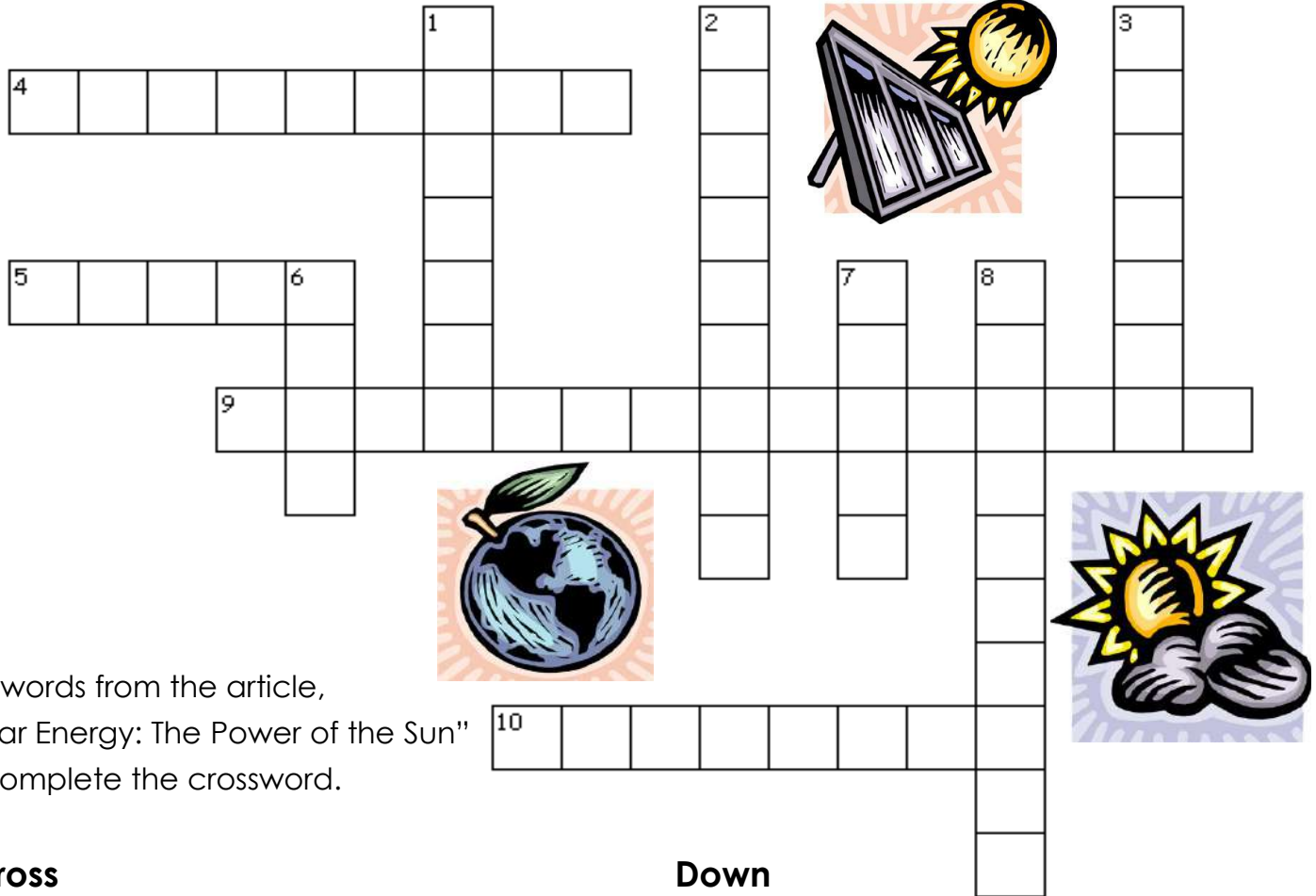
5. Write another appropriate title for this passage. Do not use the word "solar" or "power" in your new title.

Now try this: Find a solar powered calculator. Try to use it next to a bright window. Then, try to use it in a dark room. What happens?

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Use words from the article,
"Solar Energy: The Power of the Sun"
to complete the crossword.

Across

- 4. costly
- 5. planet that we live on
- 9. tool for making objects appear larger
- 10. light from the sun

Down

- 1. material used to make solar panels
- 2. objects that store electrical energy
- 3. glass-covered openings in houses that let light in
- 6. warmth
- 7. opposite of day
- 8. tool for adding, subtracting, multiplying, and dividing numbers

ANSWER KEY

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1. What are solar panels used for? **d**
 - a. to block the sun's dangerous rays
 - b. to create light energy from the sun
 - c. to create heat energy from the sun
 - d. **to create electrical energy from the sun**
2. How is it possible to use solar energy from solar panels at night?
They store electrical energy in batteries, so it can be used any time.
3. What are solar panels made of? **c**
 - a. electrons
 - b. heat
 - c. **silicon**
 - d. hydrogen
4. What is solar thermal energy?
 - a. energy produced by solar panels
 - b. **heat energy from the sun**
 - c. energy stored in batteries
 - d. heat energy from water
5. Write another appropriate title for this passage. Do not use the word "solar" or "power" in your new title.

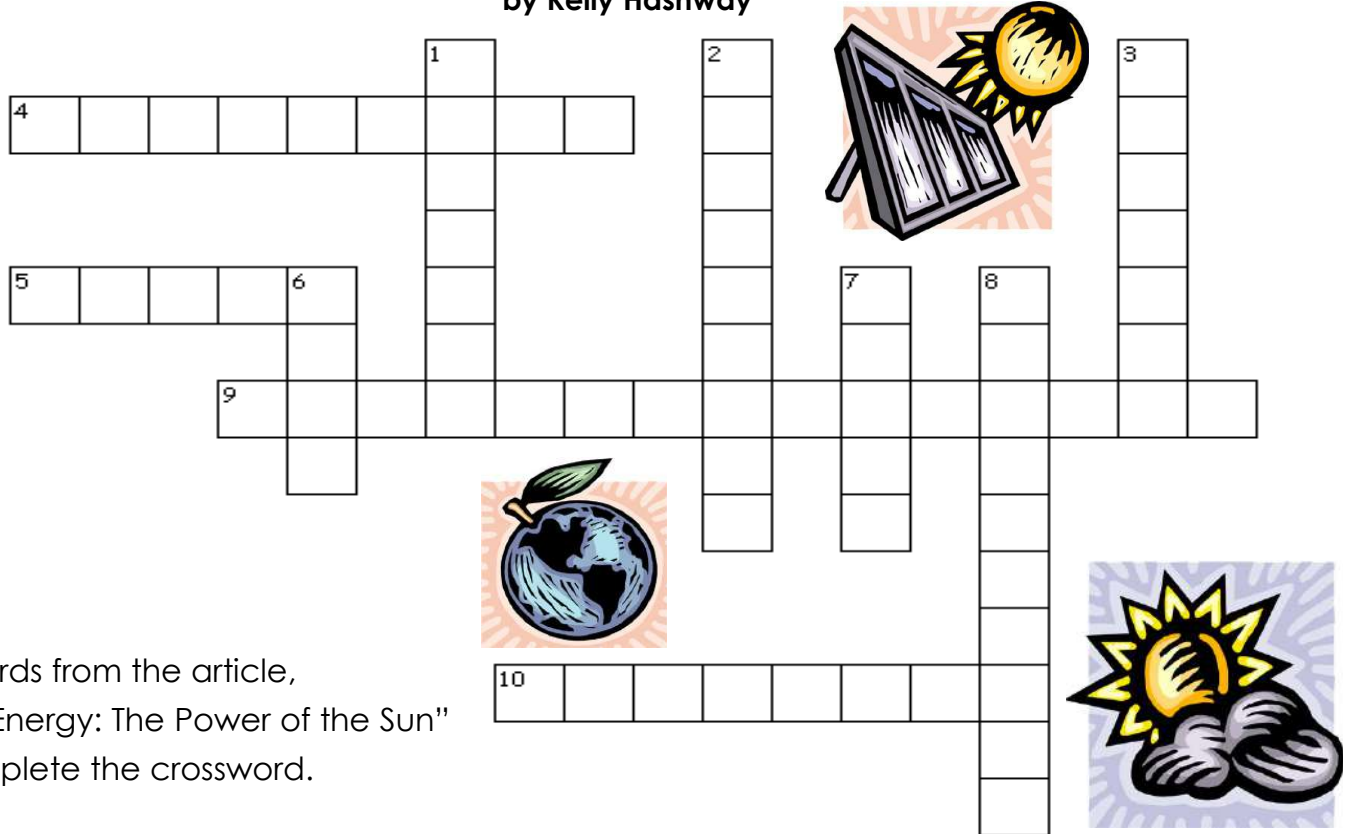
Answers will vary. One example: Using Energy from the Sun

Now try this: Find a solar powered calculator. Try to use it next to a bright window. Then, try to use it in a dark room. What happens?

ANSWER KEY

Solar Energy: The Power of the Sun

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Use words from the article,
“Solar Energy: The Power of the Sun”
to complete the crossword.

Across

- 4. costly (**expensive**)
- 5. planet that we live on (**Earth**)
- 9. tool for making objects appear larger (**magnifying glass**)
- 10. light from the sun (**sunlight**)

Down

- 1. material used to make solar panels (**silicon**)
- 2. objects that store electrical energy (**batteries**)
- 3. glass-covered openings in houses that let light in (**windows**)
- 6. warmth (**heat**)
- 7. opposite of day (**night**)
- 8. tool for adding, subtracting, multiplying, and dividing numbers (**calculator**)