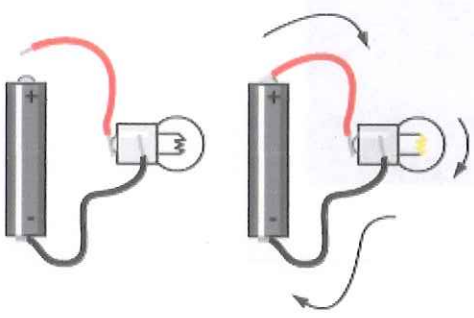


Name

Key

## Unit 2: Electric Currents, Energy Stored, Energy Resources STUDY GUIDE

1.

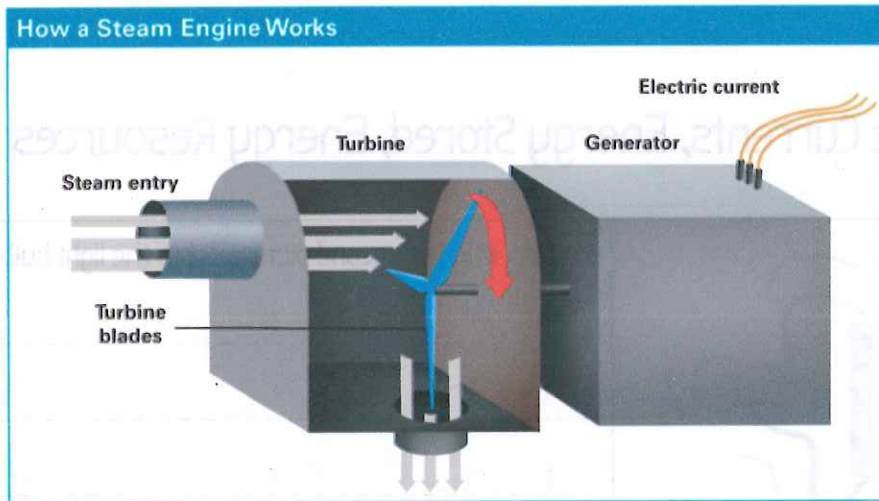
	<p>Explain why the second picture lights the light bulb.</p> <p>The second picture shows a closed circuit with a full circle. The first picture shows an open circuit.</p>
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2.



Explain how a solar cell works by using the following words: **energy**, **electric current**, and **transferred**.

The energy from the sun is transferred to the solar cell. As more light energy gets trapped in the solar cell, the electric current begins to flow.



3. Analyze this picture of a Steam Engine. Explain how energy is transferred as an electric current.

The steam heats and expands to push on the fan-like blades of a spinning wheel called a turbine. The turbine spins to create an electric current.

6. You have an unlimited budget to buy a car. Would an electric car or gas car be most energy efficient? Explain why.

An electric car is more efficient because little to no energy is transferred as heat.

7. Think about the different types of energy sources. Explain when it would be best to use wind energy?

Wind energy would be best in a very windy area where there is room to build many power plants.

8. Explain one advantage and disadvantage for each energy resource.

Wind		Nuclear	
<p>+</p> <ul style="list-style-type: none"> <li>- renewable resource</li> <li>- no pollution</li> </ul>	<p>-</p> <ul style="list-style-type: none"> <li>- Need many power plants</li> <li>- best in windy areas</li> </ul>	<p>+</p> <ul style="list-style-type: none"> <li>- no air pollution</li> <li>- one powerplant provides <u>a lot</u> of energy</li> </ul>	<p>-</p> <ul style="list-style-type: none"> <li>- nonrenewable resource</li> <li>- nuclear waste</li> </ul>

Water		Solar	
<p>+</p> <ul style="list-style-type: none"> <li>- renewable resource</li> <li>- no pollution</li> </ul>	<p>-</p> <ul style="list-style-type: none"> <li>- may cause flooding</li> <li>- animals lose habitats</li> </ul>	<p>+</p> <ul style="list-style-type: none"> <li>- renewable resource</li> <li>- no pollution</li> </ul>	<p>-</p> <ul style="list-style-type: none"> <li>- need sun</li> <li>- difficult to maintain</li> </ul>

Coal	
<p>+</p> <ul style="list-style-type: none"> <li>- coal is abundant</li> <li>- provides people jobs</li> </ul>	<p>-</p> <ul style="list-style-type: none"> <li>- nonrenewable resource</li> <li>- causes air pollution</li> </ul>

