Energy Merit

1. Write a 100-word essay defining the term *energy.* In this report explain the following statement: "Energy cannot be created or destroyed."
   Write your essay on a separate piece of paper and insert it into your workbook.
2. Define the following forms of energy and give one example of each:
   a. Kinetic Energy: _____
   _____
   Example: _____
   b. Potential Energy: _____
   _____
   Example: _____
   c. Chemical Energy: _____
   _____
   Example: _____
   d. Solar Energy: _____
   _____
   Example: _____
   e. Heat Energy: _____
   _____
   Example: _____
   f. Atomic Energy: _____
   _____
   Example: _____
3. Draw an energy diagram of a car. Show the initial sources of energy, the different forms that the energy is converted into, devices used in the conversion process, the form in which energy is released, and the energy wasted. Make sure to include the battery, air conditioning, radio, lamps, starter, alternator, wipers, and pumps.
   Complete MWS 1 "Energy Diagram of a Car."

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4. Conduct two energy surveys. One survey must be of your home. The other survey may be one of the following: church, workplace, or school. Include sources of energy, devices using energy, energy waste areas, and recommendations to use energy more wisely and minimize waste. Give a copy of your findings to each facility.
   Complete MWS 2 "Home Energy Survey" and MWS 3 "Other Energy Survey."
5. Perform an energy conversion demonstration. During the demonstration, explain in your own words the different forms that the energy is converted into.
   Date Given:_____ Subject: _____
6. Research the different kinds of energy resources of the world and make a table detailing the advantages and disadvantages of each (cost, pollution, safety, etc.). Make sure to at least include wind, coal, wood, natural gas, petroleum, waterpower, and solar.

Resource	Advantages/Disadvantages
Wind	
Cost	
Pollution	
Safety	
Coal	
Cost	
Pollution	
Safety	
Wood	
Cost	
Pollution	
Safety	

Resource	Advantages/Disadvantages
Natural Gas	
Cost	
Pollution	
Safety	
Petroleum	
Cost	
Pollution	
Safety	
Waterpower	
Cost	
Pollution	
Safety	
Solar	
Cost	
Pollution	
Safety	

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7. List the nearest power plant facility to your community, including location, size (in terms of energy produced), date established, a photograph, and any other interesting facts you may find. Research the energy resources used in the United States and the relative proportions of energy supplied by each.

   Name of Plant: _____

   Btu Rating: _____ Date Established: _____

   Location: _____

   Other Interesting Facts: _____

   _____

   _____

   _____

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Energy resources in the United States: Use current numbers if available or 1997 numbers from the lesson.

Petroleum Products: _____ Btu's _____%
Natural Gas: _____ Btu's_____%
Coal: _____ Btu's_____%
Nuclear: _____ Btu's_____%
Hydroelectric _____ Btu's_____%
Others: _____ Btu's _____%

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8. Explain what *cogeneration* means and how it conserves energy.

_____
_____
_____
_____
_____
_____

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9. Obtain one article from a current newspaper or magazine about the conservation of energy. Explain how it applies to your life. Explain to a group how saving or wasting electrical energy affects the environment.
Insert the article into your workbook.

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10. Develop a plan to save energy for a period of two weeks and keep a detailed record of energy savings.
Insert your plans and records into your workbook.