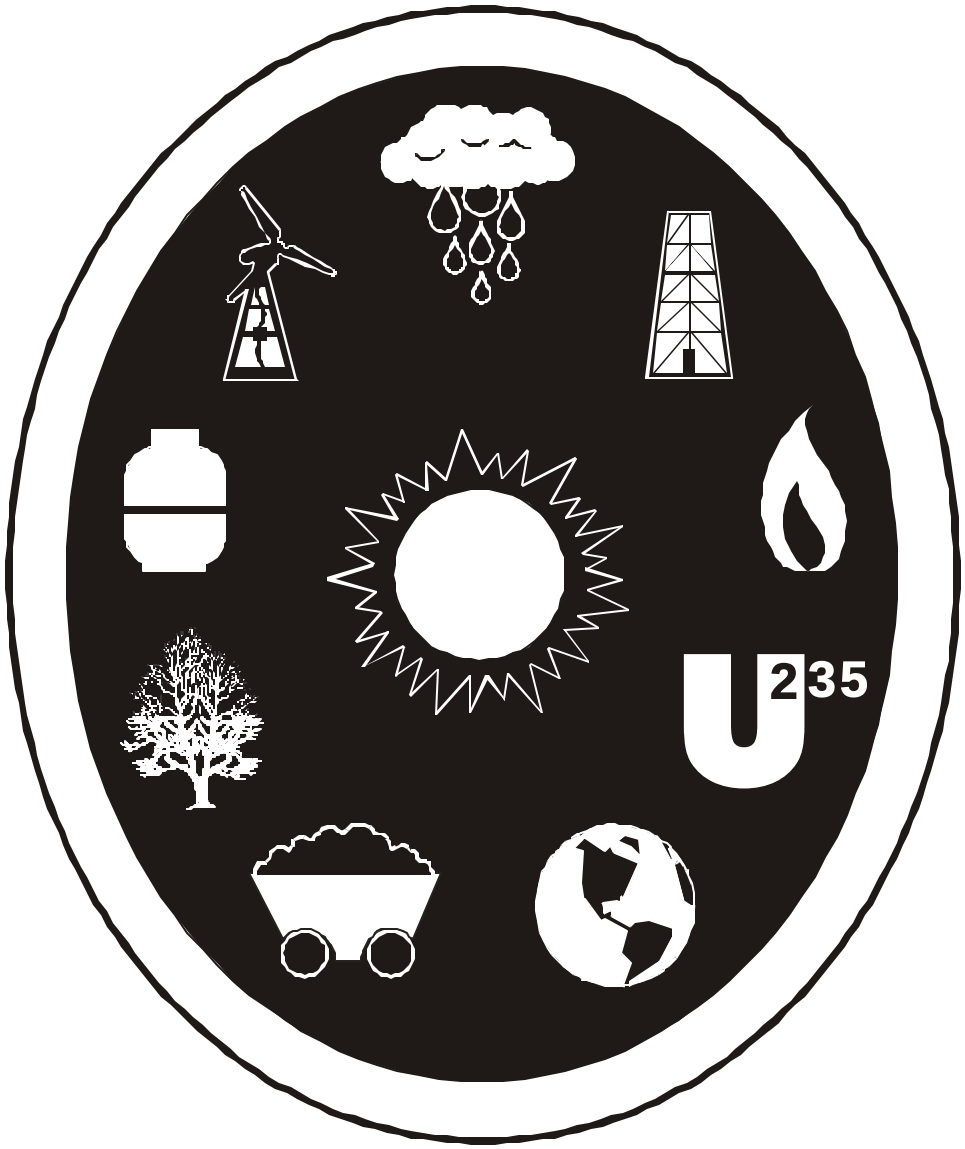
SECONDARY
ENERGY
ACTIVITIES



Name: _____

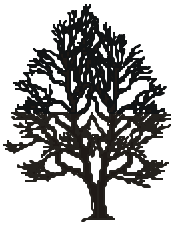
FORMS OF ENERGY

Fill in the blanks with the words at the bottom of the page. You can use words more than once.

1. Stored energy and the energy of position are _____ energy.
2. Compressed springs and stretched rubber bands are stored _____ energy.
3. The vibration and movement of the atoms and molecules within substances is called heat or _____ energy.
4. The energy stored in the center of atoms is called _____ energy.
5. The scientific rule that states that energy cannot be created or destroyed is called the Law of _____.
6. The movement of energy through substances in longitudinal waves is _____.
7. The energy of position - such as a rock on a hill - is _____ energy.
8. The movement of objects and substances from place to place is _____.
9. Electromagnetic energy traveling in transverse waves is _____ energy.
10. Energy stored in the bonds of atoms and molecules is _____ energy.
11. The movement of atoms, molecules, waves, and electrons is _____ energy.
12. The movement of electrons is _____ energy.
13. The amount of useful energy you get from a system is its _____.
14. The energy in petroleum and coal is stored as _____ energy.
15. X-rays are an example of _____ energy.
16. Fission and fusion are examples of _____ energy.
17. A hydropower reservoir is an example of _____ energy.
18. Wind is an example of the energy of _____.

radiant	gravitational	chemical	thermal	nuclear	electrical	mechanical
kinetic	potential	sound	motion	conservation of energy	energy efficiency	

BIOMASS



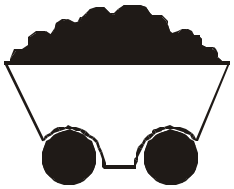
Description of biomass, where it is located and how it is recovered:

How the energy in biomass is stored and converted into usable energy:

What/who uses biomass and for what purposes:

Advantages and disadvantages of using biomass:

COAL



Description of coal, where it is located and how it is recovered:

How the energy in coal is stored and converted into usable energy:

What/who uses coal and for what purposes:

Advantages and disadvantages of using coal:

GEOTHERMAL

Description of geothermal energy, where it is located and how it is recovered:

How geothermal energy is stored and converted into usable energy:

What/who uses geothermal energy and for what purposes:

Advantages and disadvantages of using geothermal energy:

HYDROPOWER

Description of hydropower, where it is located and how it is recovered:

How hydropower is stored and converted into usable energy:

What/who uses hydropower and for what purposes:

Advantages and disadvantages of using hydropower:

NATURAL GAS

Description of natural gas, where it is located and how it is recovered:

How the energy in natural gas is stored and converted into usable energy:

What/who uses natural gas and for what purposes:

Advantages and disadvantages of using natural gas:

PETROLEUM

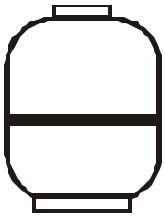
Description of petroleum, where it is located and how it is recovered:

How the energy in petroleum is stored and converted into usable energy:

What/who uses petroleum and for what purposes:

Advantages and disadvantages of using petroleum:

PROPANE



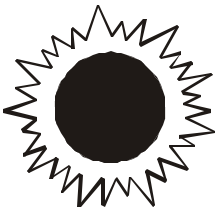
Description of propane, where it is located and how it is recovered:

How the energy in propane is stored and converted into usable energy:

What/who uses propane and for what purposes:

Advantages and disadvantages of using propane:

SOLAR



Description of solar energy, where it is located and how it is recovered:

How the energy in solar energy is stored and converted into usable energy:

What/who uses solar energy and for what purposes:

Advantages and disadvantages of using solar energy:

URANIUM

Description of uranium, where it is located and how it is recovered:

How the energy in uranium is stored and converted into usable energy:

What/who uses uranium and for what purposes:

Advantages and disadvantages of using uranium:

WIND

Description of wind energy, where it is located and how it is recovered:

How the energy in wind is stored and converted into usable energy:

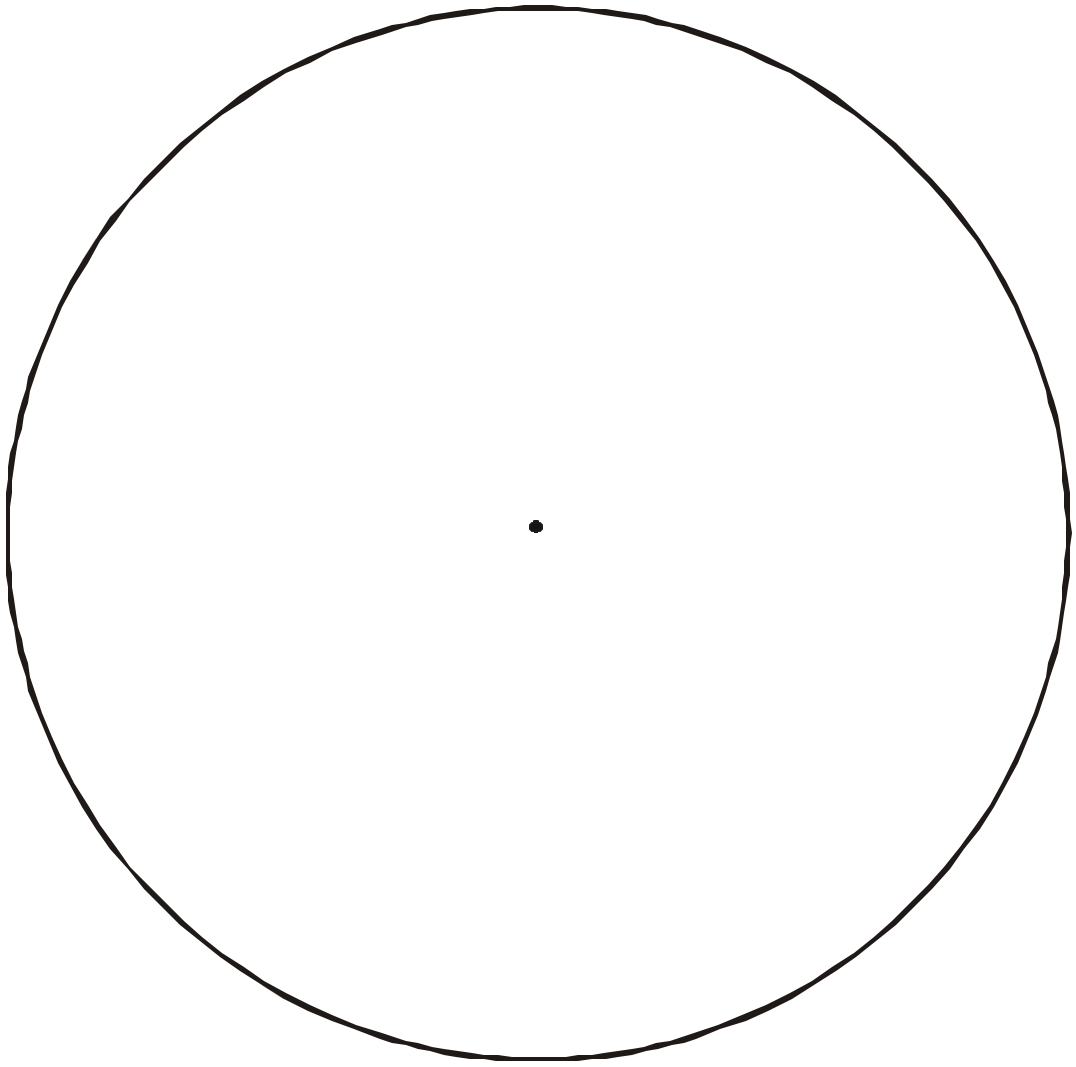
What/who uses wind energy and for what purposes:

Advantages and disadvantages of using wind energy:

RENEWABLES AND NONRENEWABLES

Convert the quads into percentages and make a pie chart showing how much of the energy the U.S. consumed in 2000 came from renewable sources and how much came from nonrenewable sources (Q = quad or quadrillion Btu).

PETROLEUM	36.9 Q	=	_____ %
COAL	21.7 Q	=	_____ %
NATURAL GAS	21.3 Q	=	_____ %
URANIUM	7.7 Q	=	_____ %
BIOMASS	3.5 Q	=	_____ %
HYDROPOWER	3.4 Q	=	_____ %
PROPANE	1.7 Q	=	_____ %
GEOTHERMAL, SOLAR, WIND	0.5 Q	=	_____ %



HOW WE USE OUR ENERGY SOURCES

In the boxes, explain how the sources on the left are used for the tasks along the top. Star the main use of each source.

	 TRANSPORTATION	 MANUFACTURING	 HEATING/COOLING	 LIGHTING	 ELECTRICITY
					
					
					
					
					
					
					
					
					
					

ELECTRICITY

Write the correct word for each definition in the blank space.

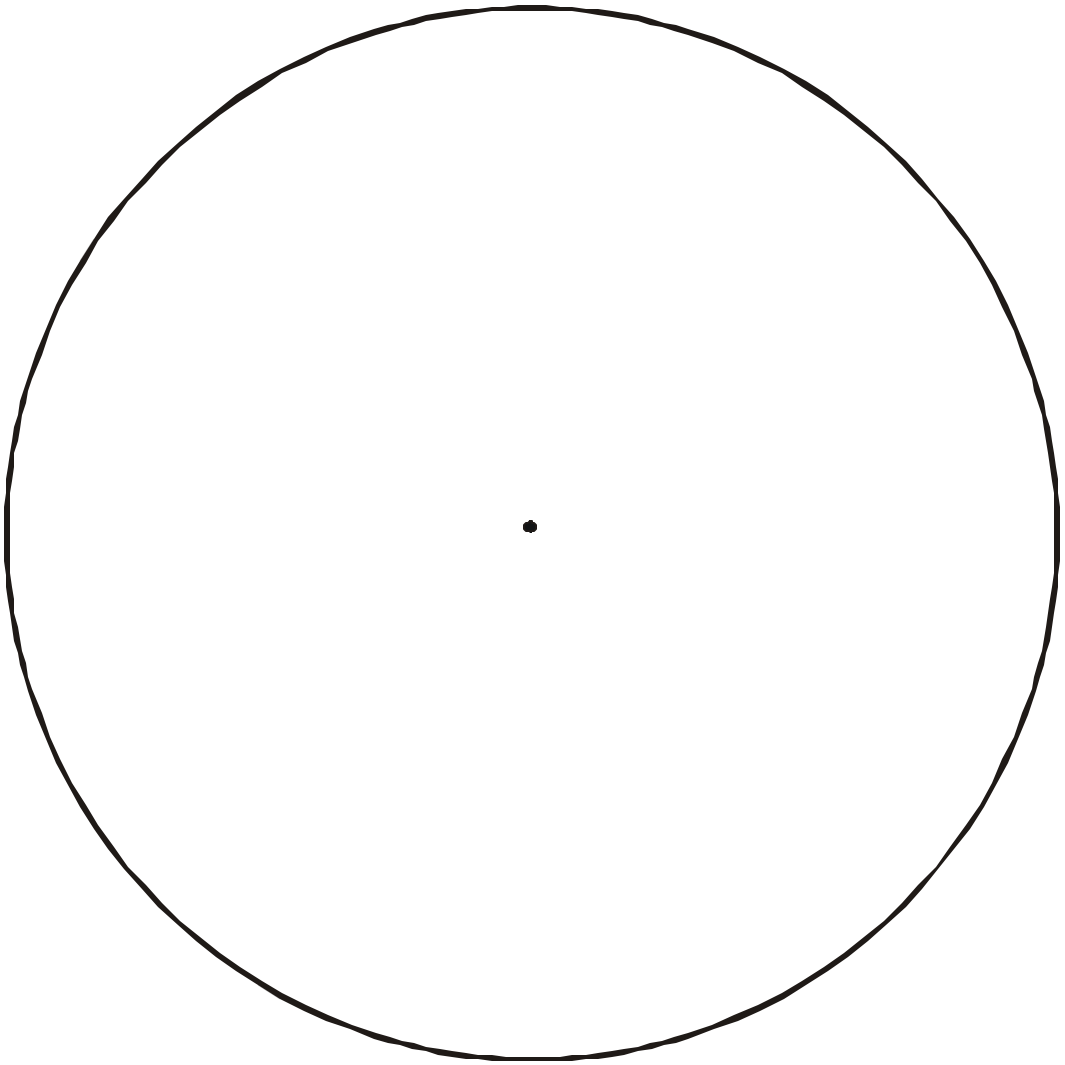
1. A device that changes voltage. _____
2. A device that changes linear motion into circular motion. _____
3. Allowing competition in the power industry. _____
4. Managing how and when consumers use electricity. _____
5. The total amount of electricity a power plant can deliver. _____
6. Times when many customers need electricity. _____
7. A device that turns mechanical energy into electricity. _____
8. How well a utility delivers electricity at all times. _____
9. Electricity produced at all times to meet basic demand. _____
10. A merged network of electric utilities. _____
11. Reducing energy usage through behavioral changes. _____
12. A measurement of the amount of electricity used by consumers. _____
13. Power plants that burn fuel to produce electricity. _____
14. A material with little resistance to electric current. _____
15. Combining the nuclei of atoms to produce energy. _____
16. A source of energy that requires another source to produce it. _____
17. Manufacturing a product and producing electricity. _____
18. Reducing the amount of energy consumed by devices through advances in technology. _____

capacity reliability base-load peak demand secondary transformer fusion
turbine generator conservation efficiency demand-side management
kilowatt-hour deregulation cogeneration superconductor thermal power pool

ELECTRIC POWER GENERATION

Convert the bkWh into percentages and make a pie chart showing how much of the electricity the U.S. consumed in 2000 came from each energy source (bkWh = billion kilowatt-hours).

PETROLEUM	116 bkWh	= _____	%
COAL	1,891 bkWh	= _____	%
NATURAL GAS	546 bkWh	= _____	%
URANIUM	728 bkWh	= _____	%
BIOMASS	64 bkWh	= _____	%
HYDROPOWER	306 bkWh	= _____	%
PROPANE	0 bkWh	= _____	%
GEOTHERMAL, SOLAR, WIND	18 bkWh	= _____	%



The NEED Project
8408 Kao Circle
Manassas, VA 20110
1-800-875-5029
www.NEED.org