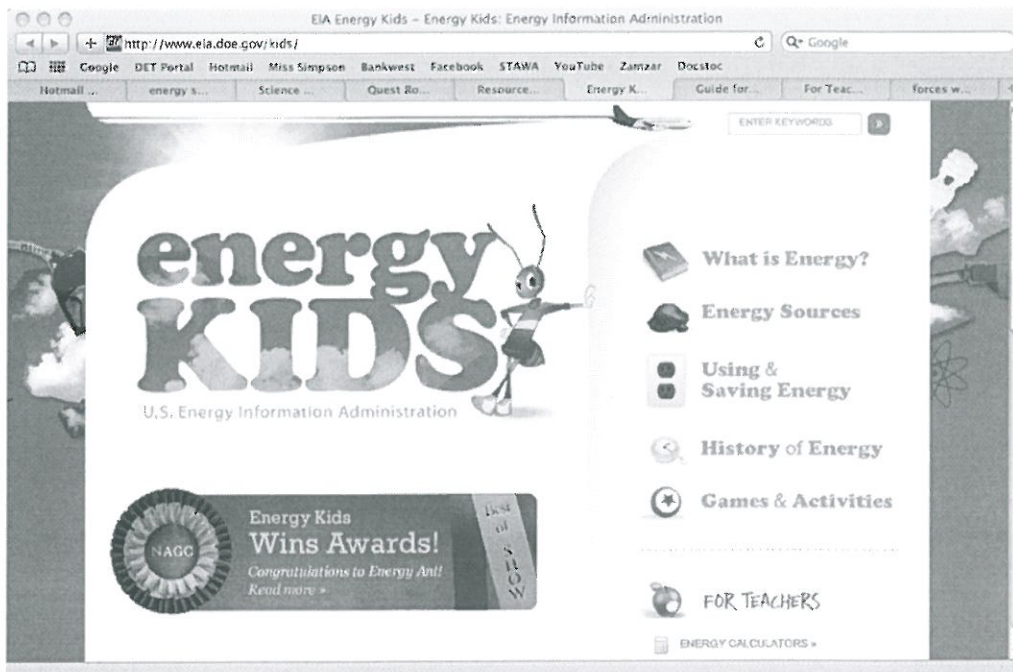


# Energy Webquest

This webquest is designed to help you gain a better understanding of energy. You need to complete the series of activities outlined below and answer any questions in your science journal (full sentence answers). Have fun!

Go to the website <http://www.eia.doe.gov/kids/> or if this fails to load go to [www.google.com](http://www.google.com) and type in the words "energy kids". Select the first option from the list that has been generated for you. You know you're on the right site when it looks like the homepage image below:



Click on the book icon "What is energy?"

From there click on the ABC blocks "energy basics"

Q1. Energy is the ability to do what? The ability to do work.

Q2. Write down 7 forms of energy: Heat (thermal) Light (radiant)  
Electrical Nuclear energy Motion (kinetic)  
Chemical Gravitational

Q3. Give four examples of renewable energy: solar, wind, geothermal, biomass,  
hydropower \* any of these.\*

Q4. Why are non-renewable energy sources also called "fossil fuels"? Because they were  
formed millions of years ago by the action of heat & pressure on dead organisms

From the menu on the left hand side of the page select "Forms of energy"

Q5. Energy forms are either potential energy or kinetic energy.

Q6. What is potential energy? Stored energy and the energy of position

Q7. What is kinetic energy? the motion of waves, electrons, atoms, molecules, substances and objects.

Q8. Sort the following types of energy into either the potential or kinetic energy categories:

*Radiant, chemical, mechanical, thermal, gravitational, motion, nuclear, sound, electrical*

Potential	Kinetic
Chemical	Radiant
Mechanical	Thermal
Gravitational	Motion
Nuclear	Sound
	Electrical

From the left hand side of the screen select the menu item "Laws of Energy"

Q9. What is the law of conservation of energy? Energy is neither created nor destroyed → it changes from one form to another.

Q10.



Explain what the diagram above means: the chemical energy in the icecream is transformed into motion energy by the person pedalling the bicycle.

From the left hand side of the screen select the menu item "Sources of energy"

Q11. What is the percentage of energy consumption for the following sources?

Petroleum 36.1%      Natural gas 27.4%      Wind 16%  
Biomass 4.6%      Uranium 8.5%      Coal 18.5%

From the left hand side of the screen select the menu item "History of Energy"

Q12. Which energy source was civilization's first invention? Fire

Click on Oil (petroleum)

Q13. In 2000 BC the Chinese refined crude oil for use in what? lighting & heating

Q14. What important event happened in 1859? oil was first discovered

Q15. Complete this sentence:

In the 1890's the mass production of automobiles began creating demand for gasoline.

Before this, kerosene used for heating had been the main oil product.

Q16. What year did gas stations start opening up everywhere in the United States? 1920

Q17. Which 5 countries made up the original OPEC group? Iran, Iraq, Kuwait, Saudi Arabia and Venezuela

Q18. In 1972, oil well productivity reached a high of how many barrels per day? 18.6

Q19. In 2006, what renewable fuel did refineries start using in response to the Energy Policy Act? Ethanol

From the left hand side of the screen select 'electricity' from the blue menu

Q20. In around 600 BC Thales discovered static electricity by rubbing which two objects together? amber & silk

Q21. In what year did William Gilbert (England) first coin the term *electricity* from *elektron*, the Greek word for amber? 1600

Q22. In 1752 how did Benjamin Franklin prove that static electricity and lightening were the same thing? tied a key to a kite string during a thunderstorm

Q23. What year did Alessandro Volta invent the first electric battery? 1800

Q24. What year did Thomas Edison invent the incandescent light bulb? 1879

Q25. In 1883 Nikola Tesla invented what? the Tesla coil

Q26. What year was the first network of ATM machines developed? 1977

From the left hand side of the screen select the menu item "Games & Activities"

Complete some of the activities highlighted in this section!

END OF WEBQUEST