

Skills Worksheet

Critical Thinking**ANALOGIES**

In the space provided, write the letter of the pair of terms or phrases that best complete the analogy shown. An analogy is a relationship between two pairs of words or phrases written as **a : b :: c : d**. The symbol **:** is read "is to," and the symbol **::** is read "as."

- | | |
|--|--|
| _____ 1. steam : turbine ::
a. wind : windmill
b. bicycle : pedals
c. batteries : clock
d. reactor : cooling tower | _____ 5. petroleum : reserves ::
a. fusion : sun
b. uranium : radon
c. money : bank
d. coal : sulfur |
| _____ 2. controlled fission :
uncontrolled fission ::
a. internal combustion : car
engine
b. consumption : electricity
c. nuclear plant :
atomic bomb
d. methane hydrate :
natural gas | _____ 6. electricity : grid ::
a. methane hydrate : ice
b. crude oil : wells
c. coal : deposits
d. natural gas : pipeline |
| _____ 3. petroleum : plastics ::
a. oil reserves : oil deposits
b. trees : lumber
c. fabric : cotton
d. fossil fuels : fire | _____ 7. petroleum fuels : carbon
dioxide ::
a. coal : sulfur
b. oil well : natural gas
c. nuclear power : uranium
d. fuel cells : hydrogen |
| _____ 4. control rods : nuclear
reaction ::
a. current : generator
b. neutrons : uranium
pellets
c. steam : condensation
d. brakes : car | _____ 8. fission : splitting ::
a. fusion : technical
difficulty
b. neutron : nucleus
c. deuterium : helium
d. fusion : joining |

Critical Thinking *continued*

INTERPRETING OBSERVATIONS

Read the following passage, then answer the questions below.

When energy is cheap and plentiful, the average consumer doesn't have to think much about efficiency or cost. But the oil crisis of 1973 gave many people in the United States a new appreciation for the law of supply and demand.

The oil crisis was not a natural occurrence but an artificial shortage caused for political reasons. In October 1973, the Organization of Petroleum Exporting Countries (OPEC) began an oil embargo in which member countries acted to limit the sale of crude oil to the United States. Prices for petroleum products, notably gasoline, rose sharply because of this drastic cut in supply. Many Americans still remember the long lines at gas pumps that year, as well as gas prices that rose to record levels. The embargo ended in March 1974, but Americans continued to react to its economic effects. Car makers began to produce more fuel-efficient cars, and consumers bought them. Congress approved the development of the Trans Alaska oil pipeline, which boosted domestic oil production when it was completed in 1977.

In the decades since the embargo, oil prices have gone through other periods of change, as well as times of relative stability. The price of oil continues to affect both individual choices and government policy.

Sources: Energy Information Administration: 25th Anniversary of the Oil Embargo; WTRG Economics: Oil Prices History and Analysis

- 9.** This embargo created an artificial drop in the supply of oil. How would a natural shortage differ from an embargo situation?

- 10.** After 1973, American scientists began to make serious efforts to develop technologies that create electricity from renewable resources. Do you think this step was necessary? Explain your answer.

Critical Thinking *continued*

AGREE OR DISAGREE

Agree or disagree with the following statements, and support your answer.

11. Producing electricity on a large scale inevitably has environmental costs.

12. Electricity should cost more so that people will use less.

13. Coal can be a clean source of energy.

Critical Thinking *continued*

REFINING CONCEPTS

The statements below challenge you to refine your understanding of concepts covered in the chapter. Think carefully, and answer the questions that follow.

- 14.** Compare how energy is used worldwide with how it is used in the United States.

- 15.** World oil production is expected to begin falling by the year 2015. Why do you think this is the case?

- 16.** Explain whether you think nuclear energy is a viable source for the future energy needs of the United States.
