**Energy Misconceptions**

Remember to justify your answers in the space below each question.

1. Energy can best be described as?

A: a force needed to do work

B: heat

C: work done on an object

D: an ability to do work

E: an interaction between molecules

Justification -

1. In closed systems energy is \_\_\_\_\_\_\_\_\_\_, and in open systems energy is

\_\_\_\_\_\_\_\_\_\_\_.

A: stored to be used at a later time; cannot be stored for later use

B: stays in the system; doesn’t stay in the system

C: limited; unlimited

D: conserved; isn’t conserved

E: recycled; lost

Justification -

1. What is the mass of the solution when 1 kilogram of salt is dissolved in 20

kilograms of water?

A: 19 kilograms. B: 20 kilograms. C: Between 20 and 21 kilograms. D: 21 kilograms. E: More than 21 kilograms.

Justification -

1. True or False? When a match burns, some mass is destroyed. A: True B: False

Justification -

5. Which of the following must be the same before and after a chemical

reaction?

A: The sum of the masses of all substances involved.

B: The number of molecules of all substances involved.

C: The number of atoms of each type involved.

D: Both (a) and (c) must be the same.

E: Each of the answers (a), (b), and (c) must be the same.

Justification -

6. Biological systems are often considered open systems, so energy

conservation does not apply.

A: True B: False

Justification -

7. The initial phase of an avalanche can be used as an example of conservation

of energy because it represents:

A: change in kinetic energy to potential energy

B: change in thermal energy to mechanical energy

C: change in potential energy to kinetic energy

D: change in thermal energy to gravitational energy

E: change in gravitational energy to kinetic energy

Justification -