

**\* ENERGY CONVERSIONS AND BEYOND may advance the following  
ENERGY LITERACY PRINCIPLES AND CONCEPTS**

**1 Energy is a physical quantity that follows precise natural laws.**

**1.1 Energy is a quantity that is transferred from system to system.**

**1.5 Energy comes in different forms and can be divided into categories.**

**1.6 Chemical and nuclear reactions involve transfer and transformation of energy.**

**1.7 Many different units are used to quantify energy.**

**1.8 Power is a measure of energy transfer rate.**

**2 Physical processes on Earth are the result of energy flow through the Earth system.**

**2.6 Greenhouse gases affect energy flow through the Earth system.**

**3 Biological processes depend on energy flow through the Earth system.**

**3.6 Humans are part of Earth's ecosystems and influence energy flow through these systems.**

**4 Various sources of energy can be used to power human activities, and often this energy must be transferred from source to destination.**

**4.1 Humans transfer and transform energy from the environment into forms useful for human endeavors.**

**4.2 Human use of energy is subject to limits and constraints.**

**4.5 Humans generate electricity in multiple ways.**

**4.7 Different sources of energy and the different ways energy can be transformed, transported, and stored each have different benefits and drawbacks.**

**5 Energy decisions are influenced by economic, political, environmental, and social factors.**

**5.1** Decisions concerning the use of energy resources are made at many levels.

**5.4** Energy decisions are influenced by economic factors.

**5.6** Energy decisions are influenced by environmental factors.

**5.7** Energy decisions are influenced by social factors.

**6 The amount of energy used by human society depends on many factors.**

**6.1** Conservation of energy has two very different meanings.

**6.2** One way to manage energy resources is through conservation.

**6.4** Earth has limited energy resources.

**6.5** Social and technological innovation affects the amount of energy used by human society.

**6.7** Products and services carry with them embedded energy.

**6.8** Amount of energy used can be calculated and monitored.

**7 The quality of life of individuals and societies is affected by energy choices.**

**7.1** Economic security is impacted by energy choices.

**7.3** Environmental quality is impacted by energy choices.

**7.4** Increasing demand for and limited supplies of fossil fuels affects quality of life.