

**BUILDING A PASSIVE SOLAR HOME** 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.

**1.2** The energy of a system or object that results in its temperature is called thermal energy.

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

**2.2** Sunlight, gravitational potential, decay of radioactive isotopes, and rotation of the Earth are the major sources of energy driving physical processes on Earth.

**2.3** Earth's weather and climate are mostly driven by energy from the Sun.

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

**3.1** The Sun is the major source of energy for organisms and the ecosystems of which they are a part.

**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.

**4.6** Humans intentionally store energy for later use in a number of different ways.

**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.

**5.2** Energy infrastructure has inertia.

**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.

**6.6** Behavior and design affect 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.**

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

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

**7.5** Access to energy resources affects quality of life.

**7.6** Some populations are more vulnerable to impacts of energy choices than others.