

Energy on Earth

An Interactive DVD Program

Energy on Earth is a DVD designed to help teach scientific literacy in the secondary and college classroom. This interactive DVD contains the complete video program along with Guided Questions and a Mastery Quiz.

Guided Questions

Following the viewing of the video program you can challenge the student or the entire class with a series of Guided Questions. If a student answers the question correctly the program moves on to the next question. If the student gives an incorrect answer, the program notes the mistake and prompts the student to view a video clip from the original video that shows the correct answer to the question. Some of the questions encourage class discussion led by the teacher who can elicit critical and creative thinking from the student.

The questions themselves are designed to reinforce learning of key concepts in science literacy as detailed in current science reform programs such as *Benchmarks for Science Literacy* in AAAS's *Project 2061*, and the National Research Council's *National Science Education Standards*.

Mastery Quiz

After completing the *Guided Question* session, the student can take a *Mastery Quiz* (also on the DVD disc) to confirm his or her newly learned mastery of the content. Along with this guide, there are separate sheets that reprints the *Mastery Quiz*. Teachers are free to make copies of this quiz if they wish to use it in printed form in the classroom.

Energy on Earth

Mastery Quiz

- How old is the Earth?
 - About fifteen billion years old
 - Six or seven thousand years old
 - No one has any idea
 - About two hundred thousand years old
- What is the 2nd Law of Thermodynamics?
 - Renewable energy is the answer to energy shortages
 - Nuclear fission is the most promising energy supply
 - In all energy exchanges there is a loss to random heat
 - Energy can never be created or destroyed
- How much of the sun's energy is captured by green plants in photosynthesis?
 - About one percent
 - About ten percent
 - Less than one hundredth on one percent
 - An unknown amount
- What is the source of the energy in fossil fuels?
 - Nuclear fission
 - Chemicals in the earth
 - Solar energy captured by green plants long ago
 - Geothermal stores
- Which of the following are renewable energy sources?
 - Windmills
 - Solar voltaic cells
 - Uranium and plutonium
 - Fossil fuels
 - Falling water
- What are some of the drawbacks to windmills and photovoltaic cells?
 - None
 - Only work when sun is shining or wind is blowing
 - Give off toxic chemicals
 - Increase global warming
- What are some benefits of nuclear power?
 - Could supply abundant energy for future
 - Does not add toxic gases to atmosphere
 - Does not rely on fossil fuels
 - Does not contribute to global warming
- What are some drawbacks to nuclear power?
 - Possibility of theft by terrorists
 - Difficulty of storing nuclear wastes
 - Adds carbon dioxide to atmosphere
 - Shortage of uranium
- Which of the following would be possible energy sources for autos and trucks?
 - Hydrogen
 - Hydroelectric
 - Alcohol and other bio fuels
 - Nuclear reactors
- Where does geothermal energy come from?
 - Left over energy from the formation of the earth
 - The sun
 - Outer space
 - Nuclear fusion