The Material World: Compare/contrast Korea (eastern Asia) with the Standard of Living in the United States

Lesson Summary:

Students will use the class sets of The Material World to compare/contrast technology and the use of resources in various countries concentrating on Korea and eastern Asia.

Estimated Duration:

2-3 class periods of 45 minutes

Pre-Assessment:

Study of World Populations, graphing of the timeline of population growth, over population and consumption of resources, standard of living/quality of life in developing nations and developed nations, development of technology, carrying capacity

Post-Assessment:

Students will complete "Footprint on Earth" http://www.earthday.net/footprint/quiz.asp survey and be able to write a summary of how technology impacts our natural environment in the United States (developed nation), developing nation (Korea) and underdeveloped (Ethopia). If a country (nation) has a population of 1 billion and a nation has a population of 290 million, who (which nation) leaves the larger footprint and why.

Instructional Procedures:

Distribute Material World books
Distribute comparison handouts: Sofa, T.V., population graph, stove, life expectancy, most valued possession
Divide students up into partners and allow them to use the textbooks to complete their comparison handouts and population graphs
Discuss the results orally

Differentiated Instructional Support:

enlarged handouts for visually impaired
partener assignments for I.E.P. students
oral discussion for auditory learners
visual pictures in textbooks for visual learners

Extension:

Compare North and South Korea: standard of living/quality of life, life expectancies, use of technology

Homework Options and Home Connection:

Interdisciplinary Connections:

Political History and division of North and South Korea (Social Studies)
Population Graphs (Math)

Materials/Resources Needed:

30 Material World Textbooks
Handouts: stove, t.v., sofa, life expectancy, population graph, favorite possession
computer/internet (Footprint on Earth: http://www.earthday.net/footprint/quiz.asp)

Key Vocabulary:

Technology Connections:
Compare/contrast technology availability in underdeveloped, developing and developed nations.
Example: hoe versus motorized rototiller

Internet Quiz of Footprint on Earth: http://www.earthday.net/footprint/quiz.asp

Research Connections:
Use the Material World Textbooks to explore Korea

General Tips:
Give the students time to look through the textbooks. They find the books quite fascinating and enjoy the pictures and descriptions. They are also amazed at their misconceptions and assumptions about the rest of the world outside of the U.S.

Attachments:

Footprint Quiz PDF format

Attachments:

Footprint Quiz

Standards

PreK-12 Science

S01. Earth and Space Sciences

C. Describe interactions of matter and energy throughout the lithosphere, hydrosphere and atmosphere (e.g., water cycle, weather and pollution). (06-08)

02. Explain that Earth's capacity to absorb and recycle materials naturally (e.g., smoke, smog and sewage) can change the environmental quality depending on the length of time involved (e.g. global warming). (07)

04. Analyze data on the availability of fresh water that is essential for life and for most industrial and agricultural processes. Describe how rivers, lakes and groundwater can be depleted or polluted becoming less hospitable to life and even becoming unavailable or unsuitable for life. (07)

S02. Life Sciences

C. Explain how energy entering the ecosystems as sunlight supports the life of organisms through photosynthesis and the transfer of energy through the interactions of organisms and the environment. (06-08)

06. Summarize the ways that natural occurrences and human activity affect the transfer of energy in Earth's ecosystems (e.g., fire, hurricanes, roads and oil spills). (07)

S04. Science and Technology

A. Give examples of how technological advances, influenced by scientific knowledge, affect the quality of life. (06-08)

01. Explain how needs, attitudes and values influence the direction of technological development in various cultures. (07)
02. Describe how decisions to develop and use technologies often put environmental and economic concerns in direct competition with each other. (07)
03. Recognize that science can only answer some questions and technology can only solve some human problems. (07)