

Let's start with some "Earth" vocabulary and concepts

We will review "Earth" language during each class session!
Please put this in your journal - Journal Entry #1

- Environment
- Ecological integrity or ecosystem services
- Sustainable system

Get to know these terms & concepts!

(List available on Phillips' faculty website)

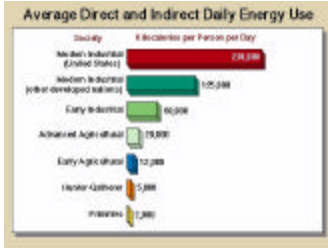
- Environment
- Ecosystem services
- Ecosystem
- Environmental degradation
- Natural resources
- Carrying capacity
- Cycle of poverty
- High waste society
- Pollution prevention
- Resource consumption
- Environmental Management Plan
- Worldview
- Sustainability
- Sustainable Systems
- Sustained Yield
- Sustainable Society
- Renewable Energy Sources
- Energy efficiency

Cycle of poverty

QuickTime™ and a
Photo CD Decompressor
are needed to use this picture

- Largest population growth in less developed nations
- Utilize less resources per person than highly developed nations
- Social tragedy

Human Population



- Impacts on resources of highly developed versus less developed countries

High waste Society

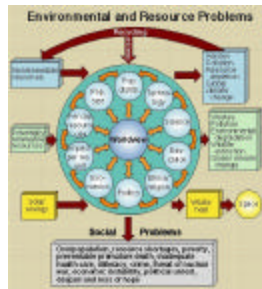
- Industrialized societies in which ever-increasing economic growth is sustained by maximizing the rate at which matter and energy resources are used

QuickTime™ and a Photo CD Decompressor are needed to use this picture

High-waste Society

- Little or no emphasis on pollution prevention, recycling, reuse, reduction of unnecessary waste and other forms of resource conservation

How long can Earth's resources sustain us at the current rate of consumption?



Human Systems

QuickTime™ and a
Photo CD Decompressor
are needed to use this picture

- Resource consumption and Energy use greatest in United States, Western European Nations and Japan
- U.S. represents 5% of world population

Human Systems

QuickTime™ and a
Photo CD Decompressor
are needed to use this picture

- U.S. utilizes about 30% of the world's natural resources
- A child born in the U.S. has a far greater impact than a child born in India

Human Systems

QuickTime™ and a
Photo CD Decompressor
are needed to use this picture

- Energy consumption
 - Coal
 - Oil
 - Natural Gas
 - Uranium (nuclear power)
- Impacts all Earth's processes & cycles

Human Systems

QuickTime™ and a
Photo CD Decompressor
are needed to use this picture

- Almost every environmental problem is associated with energy production, distribution and consumption

Environmental Degradation

QuickTime™ and a
Photo CD Decompressor
are needed to use this picture

- Environmental problems are a result of:
 - Increase in human population
 - Consumption of resources
 - Energy use
 - Worldview
 - Lack of education

Where do we go from here?

QuickTime™ and a
Photo CD Decompressor
are needed to use this picture

- Consider the impact of our collective actions
- Provide leadership
- Adopt a world view
- Develop a U.S. **Environmental Management Plan**

New World Ethic

QuickTime™ and a
Photo CD Decompressor
are needed to use this picture

- Adopt an ethic that considers the long term impact of our choices
- Values ecological integrity
- Values the quality of human life

Adopt a new Earth language

QuickTime™ and a
Photo CD Decompressor
re needed to use this picture

- Emphasizes sustainability, sustainable systems, sustained yield
- U.S. should lead the way in becoming a sustainable society

Sustainability

QuickTime™ and a
Photo CD Decompressor
are needed to use this picture

- Ability of a system to survive for some specific (finite) time
- **Sustainable system:** A system that attains its full expected lifetime
- What is our current timeline?

Sustained yield

QuickTime™ and a
Photo CD Decompressor
are needed to use this picture

- Highest rate at which a potentially renewable resource can be used without reducing its available supply throughout the world or in a particular area

Sustainable Society

QuickTime™ and a
Photo CD Decompressor
are needed to use this picture

- A society that manages its economy & population size without doing irreparable environmental harm by overloading Earth's ability to absorb environmental insults, replenish its resources and sustain human & all other life forms for hundreds to thousands of years

U.S. Sustainability Goals

QuickTime™ and a
Photo CD Decompressor
are needed to use this picture

- Nonrenewable Energy Resource use is not a sustainable choice!
- Millions of years required to generate coal, oil, natural gas & uranium reserves

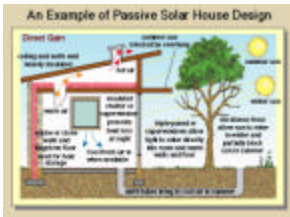
Do we continue to utilize all known reserves?

Transition to Renewable Energy Sources

QuickTime™ and a Photo CD Decompressor are needed to use this picture

- Renewable Energy Resources are a sustainable choice!
- Renewables includes solar and wind energy, and hydrogen fuel cells
- Energy efficiency - “doing more with less!”

Sustainable Systems



- Responsible U.S. Energy Policy would emphasize energy efficiency and resource conservation in our homes, businesses, industry & agriculture!

Leadership will come from the people!

QuickTime™ and a Photo CD Decompressor are needed to use this picture

- “If Homo sapiens sapiens entered its industrial civilization in an intergalactic design competition, it would be tossed out in the qualifying round. . .”
David W. Orr, Oberlin College

Ecological integrity of the Earth is slowly beginning to unravel

QuickTime™ and a Photo CD Decompressor are needed to use this picture

“We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect. . . “
Aldo Leopold

Toward a sustainable future . . .

QuickTime™ and a Photo CD Decompressor are needed to use this picture

“National security is a meaningless concept if it does not include the preservation of livable conditions within a country -or on the planet as a whole . . . on which all of human activity depends.”
Michael G. Renner

This is the Environmental Century

QuickTime™ and a Photo CD Decompressor are needed to use this picture

“The issue is not growth versus no growth, but what kind of growth and where. . .
Converting the 21st Century economy into one that is sustainable represents the greatest investment opportunity in history No challenge is greater, or more satisfying.”
Lester R. Brown & Chris Flavin

Personal Resource Inventory

- Throughout this quarter you will be developing a personal, professional or community Action Plan
- Lifestyle profile of resource use
 - What resources do you use? (renewable, potentially renewable and nonrenewable)
 - How often do you use these resources? (daily, weekly, monthly, etc.)
 - What is the “fate” of these resources? (recycled, waste production, consumed, etc.)
 - Include: energy and/or fuels, water, soil, food, products, waste
