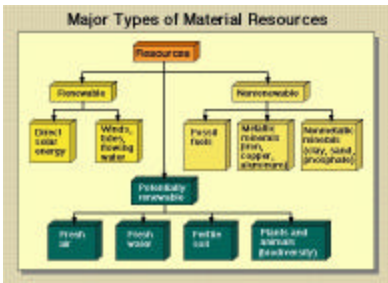


***Ecological Integrity of Earth
The Earth System***



- Those natural processes and systems that sustain life on earth
- Life support systems

Ecological Integrity - Earth's resources

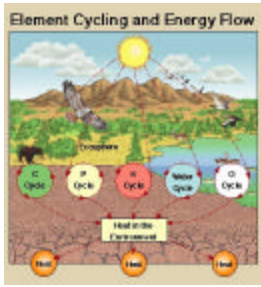


Natural processes and cycles

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

- Life on earth is dependent on:
 - One way flow of energy from the sun
 - Cycling of nutrients

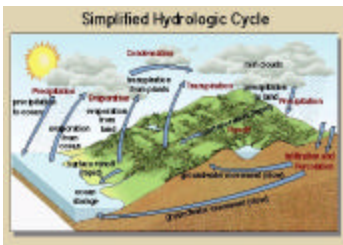
Natural processes and cycles



- Earth's cycles:
 - Nutrient cycling includes:
 - Carbon cycle
 - Nitrogen cycle
 - Photosynthesis
 - Soil formation

How are we dependent on trees and other producers?

Natural processes and cycles



- Earth's cycles:
- Hydrologic cycle
 - Ground water
 - Surface water

How long can we consumers survive without water?

Natural processes and cycles

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- Earth's atmosphere
 - Green house Effect - a natural "heat trap"
 - Ozone Layer - filters out harmful ultraviolet (u.v.) light

Earth's Biodiversity



- Earth's incredible genetic library - Biosphere
- Biodiversity includes:
 - Species diversity
 - Genetic diversity
 - Ecological diversity

How long will we last in a biologically impoverished world?

Earth's Biodiversity

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- Classified 1.4 million species on Earth
- Scientists estimate possibly 30 to 50 million species on Earth
- Greatest diversity in tropical regions

Earth's Biodiversity

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

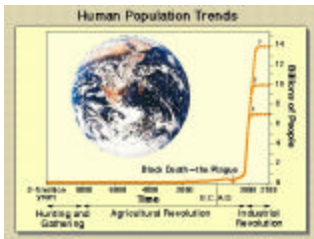
- Current extinction rate is 1 to 100 species per day
- Greatest extinction rate in the history of the Earth

Human Systems



- Earth formed about 4.6 billion years ago
- Homo sapiens evolves
- Human systems change the Earth forever

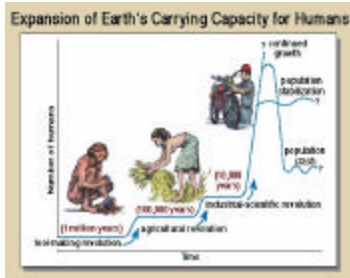
Human population



- Human population expands
- Hunter-gatherer societies to Industrial Revolution

Earth's carrying capacity

- Humans as a part of nature . . . to apart from nature
- Movement from rural to urban societies



Human Population



- Population growth worldwide
- Humans inhabit most of Earth's land surface
- No new frontiers

Human Population

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

- Consumption of resources grows
- Cycle of poverty is a worldwide problem
- Environmental degradation becomes a global problem
