Name: _____ Date: _____Period: _____ NOTES

Notes: Natural Resources

What are natural resources?	• Natural Resources provide materials and _____. – People use natural resources to make _____, build cities, _____ their homes, and make their lives more comfortable. – **Natural resource**: any _____ source, organism, or substance found in _____ that people use. – People also know that there are _____ AND _____ in using natural resources; for example, coal produces _____ but also smoke that _____ the air.
What are the 2 types of resources?	• Natural resources can be classified as _____ and _____. • **Renewable resource**: a natural resource that can be _____ in nature at about the _____ as it is used. • **Nonrenewable resource**: a natural resource that exists in a _____ amount or that is used up _____ than it can be _____ in nature. – The supply of any nonrenewable resource is _____.
What are fossil fuels?	• Fossil Fuels supply most of society's _____. • **Fossil fuel**: a _____ energy source formed from ancient plants and _____ buried in Earth's crust for _____ of years. – Includes _____, coal, and natural _____. – The energy in fossil fuels represents a form of stored _____, since ancient organisms depended on the _____. • Fossil fuels burn _____ and produce a lot of _____. They are used to run most of the _____ plants that generate _____. • Burning fossil fuels produces excess _____, harmful acids, and other forms of _____.
What are resources used for?	• Fossil fuels, _____, and plants supply materials for modern products. – Many of the products you use come from _____. • Ex. Oil is broken down into different parts that are used to make _____ – Minerals are found in _____, airplanes, tools, wires, and _____ chips. – Plants are used to make another large group of products. • Ex. _____ is used to build homes and to make furniture, utensils, and _____ • Plants are also rich sources of _____, fibers, and _____. – Fossil fuels must be burned to generate _____ for the factories and businesses that make these _____. – Factory waste can _____ air, _____, and soil.
What is conservation?	• Conservation involves _____ waste and reusing _____ resources. – The trash amount per person has _____. – Conservation programs try to _____ our natural resources, protect our _____, and slow the amount of _____ produced. – Conservation means _____, restoring, and _____ natural resources so they last _____. • We need to _____ the amount of pollution. • There are _____ ways to conserve: – _____ → cut back – _____ → use more than once
What is recycling?	• Recycling involves _____ and extending natural resources. • _____: The _____ of materials that people would otherwise _____ – Ex. Glass, _____ cans, certain _____, paper • Not every item can be _____ or reused. – Recycling is only _____ of the solution to our _____ problem. – Recycling takes time, _____, and _____, but can help extend available resources, and protect human _____ and the environment.
How do we get electricity?	• Fossil Fuels are the most _____ used sources of energy, but _____ power is also used to produce _____. • In _____ fuel power plants, water is _____ to make _____ that turns a turbine, which drives a generator to make electricity. _____ fossil fuels (like wood or coal) _____ the water. • In nuclear power plants, nuclear _____ is used to _____ the water.
What is nuclear fission?	• **Nuclear fission**: the process in which the _____ of a radioactive atom is _____, forming lighter elements and releasing a _____ amount of _____. – Nuclear power plants use _____ atoms as fuel. – When a uranium nucleus splits, it forms 2 _____ nuclei and releases a few

	neutrons and a large amount of _____ in the form of light and _____. • Although nuclear fission produces a lot of _____, it also produces radioactive _____ that can cause death and _____ if living things are exposed to it long enough. • Nuclear waste will remain _____ for thousands of years, so countries using it face the challenge of _____ it safely.
How do we use renewable resources?	• _____ resources are used to produce electricity and _____. – Sources of renewable energy are moving _____, wind, Earth's internal heat, _____, living matter, and hydrogen. • These energy sources are in _____ supply and usually produce electricity or _____ with little or no _____. • These energy sources also help to preserve the _____ and protect human _____. – Renewable resources provide only a _____ percentage of energy used because these resources can't produce enough _____ to pay for the _____ of developing them on a _____ scale.
Renewable energy: Hydroelectric Power	• **Hydroelectric energy**: electricity produced by moving _____. – People can use _____ water to produce electricity. – Because hydroelectric power doesn't _____ any fuel, it produces no _____ – Building _____ can cause problems for the environment by _____ wildlife habitats, interfering with _____ of fish, and making it harder to raise crops and livestock (some areas at the end of the river may receive _____ water).
Renewable Energy: Solar Power	• Solar cells were created to _____ the sun's _____. • **_____cell**: a special _____ device that converts light energy to _____ – In a solar cell, when _____ strikes the cell, _____ move from the lower layer to the upper layer, producing an _____ current. – Solar cells can be _____ together in solar _____. – Sunlight is an _____ source of _____ energy but current methods of collecting sunlight are _____ and somewhat _____.
Renewable Energy: Geothermal Energy	• **Geothermal Energy**: energy produced by _____ within Earth's _____. – Geothermal energy comes from underground _____ that is heated by _____. – In the U.S., geothermal energy provides electricity for nearly _____ homes. – Geothermal energy is _____ and renewable but is _____ to areas where hot water is close to the _____.
Renewable Energy: Wind Energy	• For thousands of years, people have used _____ energy to move ships, grind _____, and pump water. Today, people use wind energy to generate _____. • The modern _____ is made of metal and plastic. The _____ turn a set of gears that drives the generator to produce _____. • Wind _____ are areas with hundreds of _____. • Wind energy is clean and _____, but depends on strong winds blowing most of the time and wind farms take up a lot of _____.
Renewable Energy: Biomass Energy	• Biomass energy: _____ matter, like _____ (corn starch → ethanol) and animal _____, that can be used as _____. • Biomass _____ stations burn _____ and other plant material to produce electricity. • _____ than fossil fuels. • Although biomass is a _____ resource, burning biomass can produce a lot of carbon dioxide (_____).
Renewable Energy: Hydrogen Fuel Cells	• Hydrogen is the _____ atom, is a flammable gas, and must be handled with _____ • Hydrogen is used in a hydrogen _____ cell, which is a device that produces _____ by separating hydrogen into protons and _____. • Hydrogen fuel cells are used to supply electrical energy on _____ and space stations and is being tested on other forms of _____. • Hydrogen is a _____ source of energy and produces _____ and _____ as byproducts. • However, hydrogen fuel is very _____ and takes a great deal of energy, time, and _____.
What is global warming?	• The average _____ of the Earth are _____, and the rate of increase is getting faster and _____. • It is caused by increase greenhouse _____ (like _____) in the atmosphere that _____ heat and cause the Earth to _____ up. • The Earth does go through _____ warming and cooling cycles, but the current warming is happening too _____ and is too _____ to be natural.