NATURAL VS. SYNTHETIC RESOURCES

Natural resources are things, materials, substances and components found in the natural environment. They exist "naturally" or innately in the world and are not the result of human manipulation or creation. Natural resources can be living or nonliving. Plants, animals, water, rocks, minerals, soil and wind are examples of natural resources. The sun and fossil fuels are natural resources as well.

Natural resources are very important to us. We use energy from natural resources for transportation, to generate electricity and to manufacture products. We use energy from natural resources to "fuel" our bodies as well. Humans eat plants and animals to for energy which we need to survive. We also use natural resources to construct houses and buildings.

Synthetic resources are man-made resources. They are things, materials and substances that are not naturally found in the environment. Synthetic resources are made from natural resources.

Humans make synthetic resources or products because they help us survive and live a certain way. Many food items are synthetic. Bread, pie and chips are synthetic food items. Many medicines are synthetic. Vaccines, cough medicine and treatments known as immunotherapies used to treat cancer are synthetic. Clothing, electronics, cars and toys are synthetic as well.

RENEWABLE VS. NONRENEWABLE

Natural resources are things, materials, substances and components found in the natural environment. They exist "naturally" or innately in the world and are not the result of human manipulation or creation. There are two types of natural resources: renewable resources and nonrenewable resources.

Renewable resources can regenerate if they are alive or can be replenished by biochemical cycles if they are nonliving. Theoretically, there is an "infinite" amount of renewable resources. Water, sunlight, plants, animals and wind are examples of renewable resources.

Nonrenewable resources cannot be regenerated or replenished by natural processes. There is a finite amount of nonrenewable resources; once used up, they are forever gone. Minerals and metals are examples of nonrenewable resources. Fossil fuels are also nonrenewable resources. Technically, fossil fuels are continually being made. However, the process is extremely long and slow and we use fossil fuels MUCH faster than they are created. For this reason, we classify fossil fuels as a nonrenewable resource.

Renewable resources can become nonrenewable if they are used up faster than they can be replenished. If the resource no longer exists, there is nothing to regenerate or be replenished. For example, if we cut down trees faster than we grow them, trees can become a nonrenewable resource because there are no trees to regenerate.

SYNTHETIC PRODUCTS

Synthetic products are man-made materials and substances. They are artificial; they do not exist naturally in the environment. A synthetic product is made through chemical reactions. Natural resources are chemically changed or modified during chemical reactions to make synthetic products. Humans can chemically change or modify all kinds of natural resources to make synthetic products. We can make synthetic products from plants and animals as well as from metals, minerals and other natural resources found within Earth.

Synthetic products can be made from plants. Plants can be used to make food. For example, we use wheat, corn and sugar cane as ingredients to make food items such as bread, chips and cookies. Plants can also be used to make medicine. Many medicines, including those that treat pain, acne and infectious diseases, are made from plant parts and plant oil. Plants can be used to make makeup, lotions and other cosmetics as well.

Synthetic products can be made from animals too. We use eggs from chickens and milk from cows as ingredients to make all sorts of food items. Gelatin is a natural substance obtained from animals. Gelatin is used as a gelling agent in foods such as ice cream and marshmallows and to make medical capsules to make swallowing pills easier.

Synthetic products can be made from petroleum (aka crude oil) as well. Crude oil is a fossil fuel. Most people think it is only used as source of energy. We use crude oil to make different kinds of plastics including PVC, vinyl and styrofoam. It is also used to make nylon and polyester, important to clothing, in addition to lubricants, waxes and tar.

DISTRIBUTION OF NATURAL RESOURCES

Earth's natural resources are not distributed evenly across the planet. This can be due to Earth's climate. Fertile soil is most often found in temperate climates, where temperature is relatively mild and precipitation is relatively high. The most fertile soil is found in the US, India and Europe. Plants and animals concentrate in regions where temperature is just right and there's enough precipitation to survive. Therefore biodiversity is richest in the tropical rainforests where temperature is always warm and precipitation is high. The largest biodiversity hotspots are found in South America, Africa and Southeast Asia.

Earth's history also affects the distribution of natural resources. Some of Earth's resources, such as fossil fuels, formed from the remains of ancient plants and animals. For example, coal reserves are found where ancient swamps used to be located on Earth. The largest coal reserves are found in the United States, Russia and China Oil reserves are found where the remains of marine organisms were buried. The largest oil reserves are found in the Middle East, Canada and Mexico. Natural gas reserves are often found near oil reserves. The largest natural gas reserves are found in Russia, the Middle East.

Geologic processes impact distribution metals and minerals. These resources are found where new crust is being formed and/or destroyed. Gold is a precious metal most often found near faults and inactive volcanoes. The largest gold reserves are found in the United States and Europe. Diamonds are minerals. They are often found near ancient volcanoes, specifically in old volcanic pipes that carried magma from inside Earth to Earth's surface. The largest diamond reserves are found in Australia and Africa. Uranium is a naturally radioactive metal found in Earth's crust. It is important to nuclear power. The largest uranium reserves are found in Australia, Kazakhstan, Russia and Canada.

EFFECTS OF UNEVEN DISTRIBUTION

Natural resources are unevenly distributed on Earth. Some places are rich in resources whereas other places are void of them. People tend to settle in regions that have resources they need to survive. Most important to survival is water and fertile land, which is used for cultivating crops and animals. Furthermore, humans thrive in temperate climates with relatively mild conditions and high precipitation. This explains why countries with the high populations are in North America, Europe and Asia.

The economic activities of a country often depend on the resources in that country. In other words, people tend to have jobs that involve harvesting the resources abundant in that country. Economic activities in the country affect the wealth of a country and the quality of life of people that live in that country. In other words, quality of life and wealth depend on what resources a country has and what the country does with them. If a country does not have certain resources, the country can trade with other countries in order to obtain what it wants or needs. The country can exchange resources it has for the resources it wants. Some countries make up for a lack of resources by manufacturing products and technology. For example, Japan has limited resources but manufactures highly desired products, such as cars and electronics. Japan trades these products and in return, obtains resources it needs and great wealth.

Countries sometimes fight over control of resource-rich regions. Countries have fought with each other over gold, diamonds and fertile land. More recently, countries have fought over oil. Imperialism during the 1800s and early 1900s was in part due to an increased demand for natural resources. With imperialism, larger and stronger countries would take over and exploit smaller and weaker countries for natural resources.
