Renewable vs. Non-Renewable Resources
5th Grade
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References: (Checked 1/2005)


Benchmarks:

SLC 17B: Analyze the impact of human activity on the ecosystems of the earth
CPS Benchmark: Students will identify the impact of human activities on the earth’s ecosystem (pollution, conservation of natural resources, erosion, and soil fertility).

Objectives:

Students will be able to identify renewable vs. non-renewable resources, and will understand why conservation of resources is important.

Materials:

- Science journals

Initial Demonstration:

Ask the students what they think the words natural and resource mean. Then put the words together to define the term **natural resource**.

natural: existing in or produced by nature; not artificial
resource: something that is needed and used by people to get jobs done and to help them stay alive
natural resources: materials that are necessary for living things and are created in nature

Have the students brainstorm examples of natural resources. List their ideas on the board. Some key resources include: atmosphere, soil, fresh-water, trees, minerals, fish, animals, nitrogen, fossil fuels, natural gas, oceans, carbon, sunshine, metals, plants, coal, oil. Once the list is complete, have the students work alone, or with a friend, to group the list of resources. The students may create as many categories as they would like, but they must be able to justify their decisions. Remind them that the categories they choose should describe similarities among the resources they will list under that heading.

Have a few students volunteer to share with the class the categories they chose. Hopefully, a few students will have recognized that some of these resources “come back” (trees,
animals, plants), but that some do not (coal, etc). Discuss and define the terms renewable resource and non-renewable resource.

renewable resources: materials that are always available for use such as sunlight, water, air, soil, and plants and animals
nonrenewable resources: materials that are in limited supply because they are being used up faster than they are being formed. Nonrenewable resources such as fossil fuels like coal, oil and natural gas take a very long time to form.

Target Observations:

- Natural resources are things that come from nature and are useful to living things to help them survive.

Target Model:

- Natural resources can be sorted into those that “come back” and those that do not.

Procedure:

Have the students reorganize their list into these new categories. Ask the students to share their sorting. Follow along on the board.

Discuss the ideas of renewable and non-renewable a little further. Ask if being renewable mean that we can use as much of it as we want? Some resources are renewable only if we treat them correctly (timber, for example). Water is also an interesting resource to discuss. For example, does polluted water really count as water we can use?

Target Observations:

- Renewable resources are not things that we can just use up as much as we want.

Target Revised Model:

- Natural resources are both renewable and non-renewable.
- We must take care in our use of natural resources.

Summary:

Students are aware that humans rely heavily on natural resources. They can group natural resources into types that are renewable and non-renewable. They understand that we need to take care in our use of natural resources.
**Additional vocabulary:**

**minerals:** Solid, pure substances found in the Earth that combine to form rocks. Minerals are considered to be nonrenewable resources.

**fossil fuels:** Nonrenewable natural resources produced over millions of years by the remains of ancient plants and animals. Some examples of fossil fuels are coal, oil and natural gas.

**recycling:** Using materials like used glass bottles and aluminum cans to make new materials. Recycling saves energy because it allows us to use things over and over again.