



Lesson Plan 040110

Renewable is Do-Able! (Target: Grades 2-4)

Time Requirements:

1 (45-minute) period (Science/Earth Science Class)

Objectives:

1. Create awareness of the differences between renewable resources and nonrenewable resources
2. Create awareness for the importance of using renewable resources for energy and manufactured products
3. Create “environment awareness” dialog between students and parents/guardians

Materials:

1. Rustle the Leaf “Renewable Resources” Word Search Puzzle page
2. Rustle the Leaf “Renewable Resources” Classroom Comic and Maze page
3. Rustle the Leaf “Renewable Resources” Matching page
4. Chalkboard, marker board or overhead projector
5. Paper and pencils, red and green crayons for students

Methods:

1. (3-5 minutes) Write the word “RENEWABLE” on chalkboard or large marker board. Ask students if they know what the word means. Take answers from class, then write the definition for the word on the board below the word. Next, write the letters “NON” in front of the word “RENEWABLE,” and ask students what “NONRENEWABLE” might mean.
2. (15-20 minutes) Review the Lesson Information on this page with class as follows: on a separate part of the chalkboard or marker board, write the words “RENEWABLE” AND “NONRENEWABLE” side by side at the top of the board. Draw a vertical line down the board between the words to make two columns. As you review lesson information, write examples of each type of resource in the appropriate column. Have students duplicate what is being written on the board on their own sheets of paper.
3. (10-15 minutes) Pass out “Renewable Resources” activity pages: Matching page, Word Search Page, Classroom Comic/Maze page. Have students complete each page.
4. (5-10 minutes) After students have completed the activities, discuss the “Rustle the Leaf” Classroom Comic with them. Ask them to consider/explain what Rustle is talking about in the last panel of the comic. Ask students to explain what Rooty, Paige and Dandy were doing while Rustle was reading to them.

Lesson Information:

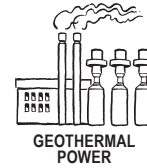
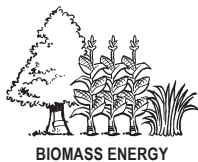
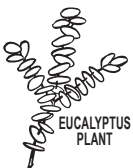
1. From the earliest historical records, we know that people have been using the Earth’s resources to make their lives better: Wood and peat for fuel and building, plants and animals for food and clothing, tree sap, tar and pitch for making vessels watertight, wax and rendered animal fat for candles and lamps. Plant fibers for papyrus and scrolls. As populations of people have grown, developed cultures, and passed on knowledge to future generations, we have discovered and invented thousands of ways to use the Earth’s resources to make our lives more comfortable, more convenient, more safe, and more enjoyable.
2. For thousands of years, the way people used the Earth’s resources didn’t make much of an impact on the health of the planet. Compared to human populations, the Earth was large and the vast majority of it was undeveloped. However, as human populations have grown, and technologies such as motors and electrical devices have become common, the way people use the Earth’s resources is affecting the Earth, and could also affect how future generations of people are able to live. This is because many of the resources upon which we now depend are not easily or safely replaceable; they are not “renewable.”
3. A **“renewable” resource is a material or energy source that can be replaced through natural, nondestructive processes, or which exists naturally and cannot be easily diminished by human activity.** These include energy sources such as the sun, wind, flowing water and waves, biomass (plant materials converted into energy), and heat from below the Earth’s crust. Renewable resources also include materials we derive from plants and animals for use as food and consumer products, which can be produced again and again through nondestructive, sustainable farming and cultivation methods.
4. A **“nonrenewable” resource is a material or energy source that exists in nature, but is not easily replaced through sustainable practices. Nonrenewable resources also include materials and energy sources developed through human manipulation, which cause long term problems due to the creation of toxins, pollution, and hazardous by-products.** Some examples of nonrenewable resources are fossil fuels (petroleum products and other materials such as gasoline, oil, natural gas, coal), minerals (metals, radioactive materials), petroleum and mineral-based chemical derivatives (plastics, lubricants, fertilizers, pesticides, industrial and household cleaners, personal care products, etc.).
5. Today, many scientists, sociologists, civic leaders, elected officials, inventors and business leaders believe people must change the ways they use nonrenewable resources for the long term health of the Earth, and for the long term viability of human populations. They are inventing and investing in ways to use renewable resources to replace nonrenewable energy resources: solar power, wind power, water power, geothermal (heat from beneath the Earth’s surface) power, biomass (plant-based materials) energy. Also, they are inventing and investing in ways to use renewable materials to replace nonrenewable materials in the production of consumer products and packaging materials.
6. As responsible, educated citizens of the Earth, we have the opportunity to help our leaders change the way we use nonrenewable energy and materials. We can learn more about renewable energy and resources, we can encourage our parents and other grown-ups to find ways to reduce their use of nonrenewable energy and resources, we can tell them about alternatives to nonrenewable products they buy for use at home. We can also do our part to reduce what we use, to re-use things we already have and to recycle things for which we no longer have a need. Together, we can help protect the Earth for ourselves and for future generations.

WORD SEARCH: RENEWABLE RESOURCES & NON-RENEWABLE RESOURCES

E N A N I M A L S S O L E
 T N O N L E L L E A M N V
 O A A R I A A C M S P R E
 R E E E O R W I U S S M N
 D O D D E A N T M F N S I
 C O R N Y T P R A O A N L
 N E I E I Y S U S R E U O
 U M M Y L W L S O E B C S
 U U G A O B A P S S Y L A
 A A C L A M R E H T O E G
 M U E L O R T E P S S A S
 E N D I E S E L M U R R S
 O O B M A B S S O L A R I

Use your GREEN CRAYON to circle renewable resources. Use your RED CRAYON to circle nonrenewable resources.

WORD KEY (Puzzle contains no word spaces): Wind, Solar, Wave, Biomass, Geothermal, Nuclear, Forests, Soybeans, Corn, Citrus Peels, Olive Oil, Lavender, Petroleum, Gasoline, Diesel, Minerals, Bamboo, Animals, Eucalyptus, Mint



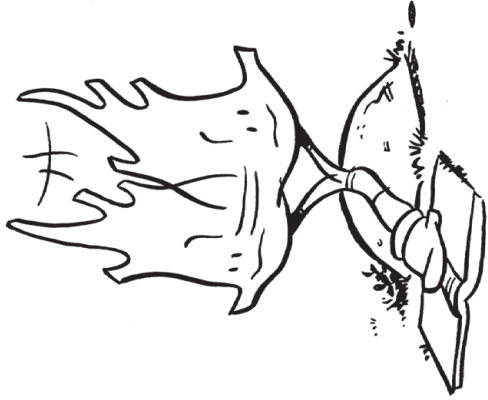
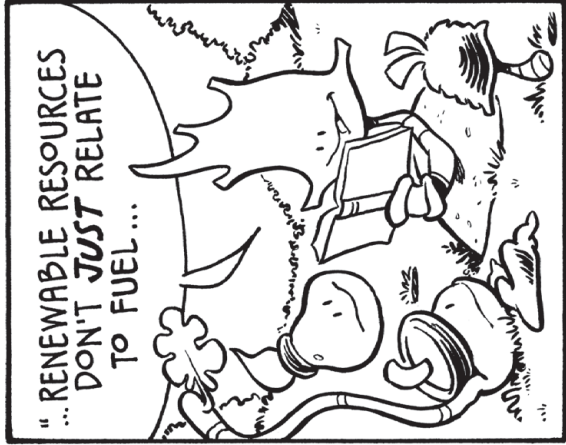
Color this circle
GREEN, then use your
GREEN CRAYON
to draw lines from this circle
to the pictures of all the
**RENEWABLE
RESOURCES**

Color this circle
RED, then use your
RED CRAYON
to draw lines from this circle
to the pictures of all the
**NON-RENEWABLE
RESOURCES**

RUSTLE THE LEAF™

BY PONCÉ & WRIGHT

CLASSROOM COMIC



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HELP RUSTLE
FIND THE WAY TO
RENEWABLE
RESOURCES

