

# Earth's Natural Resources

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<b>Strand</b>	Earth Resources
<b>Topic</b>	Five senses and Earth's natural resources
<b>Primary SOL</b>	1.8 The student will investigate and understand that natural resources are limited. Key concepts include a) identification of natural resources.
<b>Related SOL</b>	1.1 The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which a) the senses are used to observe differences in physical properties; b) observations are made from multiple positions to achieve a variety of perspectives and are repeated to ensure accuracy; c) objects or events are classified and arranged according to characteristics or properties; f) inferences are made and conclusions are drawn about familiar objects and events; h) predictions are made based on patterns of observations; i) observations and data are recorded, analyzed, and communicated orally and with simple graphs, pictures, written statements, and numbers; j) simple investigations and experiments are conducted to answer questions.

## Background Information

Natural resources are materials and components (something that can be used) that can be found within the environment. Air, water, sunlight, plants, animals, minerals, forests, and soil are examples of natural resources.

Some resources are renewable, which means they can grow back. Other resources, however, are nonrenewable. They cannot be replaced or they take a very, very long time to be replaced or grow back. Natural resources are vital for us so it is important that we use them wisely.

## Materials

- Large display picture of a natural scene – the picture should include trees, flowers, animals, water, clouds, and sunlight at a minimum
- Six large zipped plastic bags
- Construction paper (colors should include red, orange, yellow, green, blue, and brown) – construction paper should be cut into approximately 2x2 inch squares. You will need enough squares of each color so that about  $\frac{3}{4}$  of your class can have five squares of each color. DO NOT cut enough squares for each student to have five of each color!

- A piece of each construction paper color from above that is folded in half lengthwise to make a “label tent” of each color. Label the colored tents as follows:
  - Red – Animals
  - Orange – Minerals
  - Yellow – Sunshine
  - Green – Plants
  - Blue – Water
  - Brown – Soil and Land
- Sense Matrix Sheet for each student
- Student journals
- Outdoor classroom or outdoor setting, if available

### **Vocabulary**

*Natural resources, plants, animals, water, air, land, minerals, forest, soil, renewable resource, non-renewable resource*

### **Student/Teacher Actions (what students and teachers should be doing to facilitate learning)**

#### *Introduction*

1. Have the class sit in a large circle. Tell students that we are going to explore natural resources today. Ask “What is a resource?” “What is something that is natural?” “What do you think we mean by “natural resources?” (Take any answer right now.) Tell the students that we are going to discover what natural resources are.
2. Show the students the large picture of a natural area. Have students name those things in the picture that they think are natural resources. (Guide them to find plants, animals, water, clouds, sunlight, etc.) Discuss why the natural resources are important to us.
3. Discuss what would happen if we pick the flowers. (We could plant more seeds and they will grow back.)
4. Discuss what would happen if we cut down all the trees. (We could plant new trees but it will take longer for them to reach the same size as those we cut down.)
5. Discuss what would happen if we pollute the water. (We will need to remove it which means we need to know how to clean it. If we don’t know how to remove the particular contaminant, we will have to add time to find a way to remove it.)
6. Continue discussing the different natural resources and what would happen if we did not have one of them. Lead the students to realize that some natural resources are easily renewable and some are what we consider nonrenewable.

*Procedure 1*

7. Tell students that we are going to play a game about natural resources.
8. Show the students the six zipped plastic bags with the small pieces of colored paper. Explain that each color represents a type of natural resource. As you discuss each color, put out the tented label. Tell students that
  - a. Red colored paper squares represent animals
  - b. Orange represents minerals
  - c. Yellow represents sunshine
  - d. Green represents plants
  - e. Blue represents water
  - f. Brown represents soil or land
9. Tell the students that you are going to scatter the paper squares in the middle of the circle where they are sitting. Tell the students that in order to live, each student collector will need to be able to find five squares of each color. The first time you do this, you will select five students to collect five squares of each of the colors. (There should be enough squares for all five students and there should be colored squares left on the floor.)
10. When the five students have gathered their colored squares, discuss with the class about whether there were enough squares for all five students to have the natural resources they need. Ask the students if there were enough natural resources? Ask them if any of the natural resources are what we would consider nonrenewable? (yes)
11. Collect all of the squares and rescatter them on the floor.
12. This time have approximately  $\frac{2}{3}$  of your students collect squares. (Again there should be enough, but there will be very few left on the floor.)
13. Discuss with the students what seems to be happening. (There are enough resources for the collectors, but not much is left.) Ask the students what the number left means for the renewable resources? For the nonrenewable resources?
14. Collect all of the squares and re-scatter them on the floor.
15. This time have the entire class collect squares. (There will not be enough squares for everyone to get five of each.)
16. Discuss with the class what it means for those students who were unable to collect enough squares of each color. Talk about the students who were unable to collect

enough of the red or green squares. (Many of these are considered renewable.) Talk about the students who were unable to collect enough orange or brown squares. (These would be considered non-renewable.)

17. Collect all the squares. (Student helpers can later sort the colors for you.)
18. Talk with the students about ways we can be good stewards of our natural resources. (Things that a first grader can do could include: turn off the water while they brush their teeth, switch off lights when they leave a room, when something is broken, try to fix it instead of putting it in the trash, recycle, write on both sides of paper, use a washable cup instead of a paper cup, etc.)

### *Procedure 2*

19. Explain to students that we are going to go outside to identify natural resources.
20. Give each student a copy of the Sense Matrix to use outside. Divide the students into two-person teams.
21. Go outside and define an area on the school grounds where students can look for the natural resources. Tell them that their goal is for each team to fill in their Sense Matrix. They are to work as a team.
22. Have the students use their senses of sight, touch, hearing, and smell to find examples of natural resources (do not include taste for this activity.) On the matrix grid, have students find one or more examples and draw or write the name of an item in a corresponding box. (e.g., a bird may go in the sight box or hearing box if it is singing.)
23. Allow children several minutes to explore and record, making sure they all stay within the boundaries and guidelines given for completing activity.
24. Return to classroom to review each resource discovered. Students may see animals and land, hear the wind or water running in a fountain or creek, feel the warmth of the sunshine on their faces, or smell the soil in a garden. Share examples of each resource students located.

### **Assessment**

- **Questions**
  - What are natural resources and why are they important?
  - How can natural resources be conserved)? Give examples for each resource.
  - Can people help or hurt our environment? Explain to support your answer with details.

- **Journal/writing prompts**
  - The Sense Matrix helped us find natural resources in our own schoolyard. Draw and tell about this activity in your journal.
- **Other**
  - Use examples or pictures of resources to review with students. A plant, toy animal, bag of soil, a piece of coal, and air are examples for students to discuss and explore.

### **Extensions and Connections (for all students)**

- Celebrate Earth Day, Arbor Day, or Earth Hour with the class or schoolwide to reinforce the concepts of caring for the planet and the resources available to all. Viewing Earth as one community is an important concept of each celebration. (Kindergarten Science K.10), (History and Social Sciences/Geography 1.6, Civics 1.10, 1.12b) (Science 1.4, 1.5)
- Take a field trip to a local nature center, area and state park, wildlife refuge area, or rescue center. This would reinforce the idea of protecting our natural resources.
- Guest speakers from area environmental education chapters or centers would also be valuable resources.
- Adopt-a-Spot on your school or playground area to begin protecting and taking care of as a class. If your school does not already have an Outdoor Classroom, explore ways to bring one to your school by exploring grants or resources available in your area.
- Make posters encouraging natural resources and wildlife protection. Create bookmarks, t-shirts, banners, or blogs.
- Join or help create a school environmental group which could assist in outdoor classroom projects, school Beautification Days, and support environmental literacy within the school.
- Take group trips and conduct projects to help build awareness. Invite local leaders to come and speak about local concerns for the environment and how those may affect the school and community.

### **Strategies for Differentiation**

- Have students collect pictures from magazines about natural resources.
- Have students use a camera to document natural resources around the school.

# Sense Matrix Grid

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Directions: Fill in the grid with information about natural resources found on your school grounds. Use your senses of sight, hearing, smell and touch. (Do not use your sense of taste!)

Natural Resources	 see	hear 	smell 	touch 
sun 				
wind 				
plants 				
animals 				
land 				
minerals 				
soil 				