

Natural Resources Bingo

GRADE LEVELS	2 nd -8 th , California Content Standards for 2 nd and 6 th
SUBJECTS	Earth Sciences, Life Sciences
DURATION	Preparation: 15 minutes Activity: 60 minutes
SETTING	Classroom

Objectives

In this lesson, students will:

1. learn that the earth is composed of several natural resources including plants, animals, rocks, and fossil fuels.
2. learn that materials important to humans are made of these natural resources.
3. categorize common things we throw in the trash according to the resource from which they are made.

Materials

Bingo cards (1 per student)
Natural Resources cards (1 set)
B, I, N, G, O cards (1 set)
two small boxes or envelopes to hold the cards
earth image
beans, magnets, or other items to mark bingo squares

Vocabulary

- ❖ **sustainability:** the attempt to meet the needs of the present without compromising the ability of future generations to meet their needs as well
- ❖ **natural resources:** naturally occurring substances that are valuable to humans, including plants, animals, rocks, wind, sunlight, water and fossil fuels
- ❖ **fossil fuels:** hydrocarbon deposits, such as petroleum, coal, or natural gas, derived from the accumulated remains of ancient plants and animals and used as fuel. Carbon dioxide and other greenhouse gases generated by burning fossil fuels are one of the principal causes of global warming.

Teacher Background

Sustainability is the attempt to meet the needs of the present generation without compromising the ability of future generations to meet their needs as well. An important part of achieving sustainability is learning to use our natural resources conservatively and wisely.

Natural resources are naturally occurring substances that are valuable to humans. We use natural resources for everything from paper and buildings to food and water. Natural resources include both renewable and non-renewable substances. Renewable resources, such as trees and plants,

oxygen, water, and sunlight, can replenish themselves naturally. These renewable resources, if harvested at sustainable levels, are capable of being extracted from nature without depleting the resource over time. Non-renewable resources cannot be remade or regenerated fast enough to keep up with human demand. These include natural gas, coal, and oil - which are fossil fuels.

In order to live sustainably, we must first understand which kind of natural resources are used to make the things we use and consume everyday. In this activity students will learn what natural resources are and what types of everyday things are made from each of them.

Activity

Preparation

1. Print the following:
 - ❖ one copy of the earth image
 - ❖ one set of B, I, N, G, O cards
 - ❖ one set of Natural Resources cards
 - ❖ enough Bingo cards for each student in your class to have one
2. Color the earth image, cut it out, and paste it onto the front of a small box or envelope.
3. Cut out the Natural Resource cards and B,I,N,G and O cards
4. Put the four Natural Resource cards into the “Earth” box/envelope, and the five B, I, N, G, O cards into the second box or envelope.

Introduction

Explain to the students what natural resources are and that humans depend on them to make the things we need. Ask the students to list what the Earth’s natural resources are and list their responses on the board. You can bring in some examples (a potted plant, rocks, soil, a stuffed animal, molasses (to represent crude oil)) to help them come up with all of them. It may also be helpful to go outside to get more ideas. You should end up with a list that includes the following items: plants, animals, rocks and minerals, fossil fuels, water, and air. Make sure you take extra time in explaining what fossil fuels are. Explain that there is oil under the ground that we extract and use to make things like gasoline and plastic.

Now ask the students to list things that you throw into the trash (or recycling or compost bins) like used paper, aluminum cans, plastic bottles, and food scraps. After you’ve listed these items, ask the students to think about which natural resources were used to make these things. They should say trees for paper, rocks for aluminum and glass, fossil fuels for plastic, and animals and plants for food. For younger students, we suggest listing on the board all the specific objects that appear on the Bingo cards (see below). This way, students are fully prepared and the Natural Resources Bingo game can serve as a review for them. For older students, you may want to list more general categories only.



Plants	Animals	Rocks and Minerals	Fossil Fuels
Cotton t-shirt	Leather baseball	Bricks	Coal
Carrot	Hamburger	Concrete	7UP plastic bottle
Paper towels	Wool sweater	Glass window	Gasoline
Book	Leather shoe	Aluminum soda can	Plastic milk jug
Banana	Beeswax candles	Tin soup can	Plastic bag
Envelope	Feather pillow	Glass	Plastic straw
Newspaper	Ice cream	Metal nuts and bolts	
Latex balloon (rubber tree)			

Procedure

1. Divide students into groups of four to six. Although each student will have his/her own Bingo card, the students will be able to help each other and check each other's answers in groups.
2. Explain the rules of Bingo to the class.
3. Each student has a unique bingo card with pictures of everyday objects. Each of these things is made from a natural resource. These pictures are arranged in columns headed by a letter in the word "Bingo."
4. Explain that you (the teacher) will randomly pull a letter card and a Natural Resources card. For example: "B, Fossil Fuels," or "N, Plants," or "I, Animals." Make sure you write the combination that you call on the board, so you can double-check a winning card. Return the cards to their receptacles after you have finished calling it and writing it on the board.
5. Each student can cover or mark with a pen or pencil **one item** on their card that is made from that resource and is in the correct letter column. (Note that it is possible for a student to have two boxes that match the combination called. However, on any one turn, the student can only mark one item.)
6. Also, note that some of the objects are made of many natural resources. For example, paper is made from trees, but water and fossil fuels are also used in the paper-making process. For this game, we will focus on the primary natural resources used to make the object. For example, although the paper-making process involves other natural resources, paper is primarily made from plants.
7. Before drawing another combination of cards, tell students that they need to check the work of the other students in their group. They have the opportunity to challenge another student if they don't think they have made a correct choice. If there is a challenge, use this as an opportunity to discuss that object and the natural resources used to make it. Once all challenges have been discussed, continue with another card combination.

8. Tell students that you will continue to draw cards and they will continue to play until someone gets five in a row and yells, “bingo!”
9. When someone yells, “bingo,” check their card to make sure that they have identified the correct natural resource for each item used to make a bingo. If they have not, tell them which one(s) is incorrect and resume the game.

Wrap-Up

Lead a discussion with your students about waste. Prompt them to think about where their trash goes when it is thrown away, and how this affects the Earth. Ask the following questions for discussion:

- ❖ What are the natural resources that they throw in the trash the most?
- ❖ Which resources do they use the most?
- ❖ Why is it important to conserve natural resources? (*Because we need resources for food, transportation and everything else. If we use them up, we will not have the things we need, or the next generations will not have the things they need.*)
- ❖ What would happen to the earth if we used more resources than it could make? (*We would run out of the things we need to live.*)
- ❖ How can we conserve natural resources in our daily lives? (*Reducing, reusing, recycling, and composting.*)

References

Adapted from an activity by SCARE, School and Community Assistance for Recycling & Composting Education, Glen Ellyn, Illinois. <http://www.bookrescue.org/>

California Integrated Waste Management Board. (2007). *K-3 Module, Unit 1: Conserving Natural Resources*. Retrieved October 15, 2007 from <http://www.ciwmb.ca.gov/Schools/Curriculum/CTL/TOC.htm#K3Module>

Correlated California Content Standards

Grade Two

Earth Sciences

3e. Students know rock, water, plants, and soil provide many resources, including food, fuel, and building materials that humans use.

Grade Six

Life Sciences

6c. Students know the natural origin of the materials used to make common objects.

