

В

N

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В		N	G	O
COAL	leather baseball	COTTON	BRICKS	concrete
701	HAMBURGER.	wool sweater	glass window	leather shoe
	paper towels	O CO		GAS \$
Soup	MILK JOG	Plastic BAG	BELSWAX	BOOK NOOK
	FEATHER	ICE CREAM	ENVELOPE	newspaper





В		N	G	O
leather baseball	COTTON	BRICKS	concrete	Tor
HAMBURGER	wool sweater	glass window	leather shoe	
paper towels	O coo		GAS \$	Soup
MILK JUG	Plastic BAG	BEESWAX CANOLES	BOOK	
FEATHER	ICECREAM	ENVELOPE	newspaper	GLASS





В		N	G	O
COTTON	BRICKS	concrete	TOR	HAMBURGER
wool sweater	glass window	leather shoe		paper towels
O Cook		GAS \$	SOUP	WILK JOG
Plastic BAG	BERSWAX CANOLES	BOOK		FEATHER
ICECREAM	ENVELOPE	newspaper	GLASS	STRAW





В		N	G	O
BRICKS	concrete	Tor	HAMBURGER.	wool sweater
glass window	leather shoe		paper towels	O co
	GAS \$	Soup	W.ILK JUG	Plastic BAG
BETSWAX CANOLES	BOOK		FEATHER	ICE CREAM
ENVELOPE	newspaper	GLASS	STRAW	AND BOLTS





В		N	G	O
concrete	TOP TOP TO THE PARTY OF THE PAR	HAMBURGER.	wool sweater	glass window
leather shoe		paper towels	O co	(
SOUP	GAS \$	WIFK 208	Plastic BAG	BEESWAX CANOLES
BOOK		FEATHER	ICE CREAM	ENVELOPE
newspaper	GLASS	STRAW	ANO BOLTS	COAL





В		N	G	O
TOP I	HAMBURGER	wool sweater	glass window	leather shoe
	paper towels	O co		GAS \$
Soup	MILK JUG	Plustic BAG	BERSWAX CANOLES	BOOK
	FEATHER	ICE CREAM	ENVELOPE	newspaper
GLASS	STRAW	AND BOLTS	COAL	leather baseball





В		N	G	O
HAMBURGER	wool sweater	glass window	leather shoe	
paper towels	O C C C C C C C C C C C C C C C C C C C		GAS \$	Soup
MILK JUG	Plastic BAG	BERSWAX CANOLES	BOOK	
FEATHER	ICE CREAM	ENVELOPE	newspaper	GLASS
STRAW	NUTS AND BOLTS	COAL	leather baseball	COTTON





В		N	G	O
wool sweater	glass window	leather shoe		paper towels
O co		GAS \$	SOUP	MILK JOG
Plastic BAG	BESSWAX	BO THE		FEATHER
ICE CREAM	ENVELOPE	newspaper	GLASS	STRAW
AND BOLTS	COAL	leather baseball	COTTON	BRICKS





В		N	G	O
glass window	leather shoe		paper towels	O C C C C C C C C C C C C C C C C C C C
	GAS \$	Soup	WILK JUG	Plastic BAG
BERSWAX	BOOK		FEATHER	ICE CREAM
ENVELOPE	newspaper	GLASS	STRAW	ANO BOLTS
COAL	leather baseball	COTTON	BRICKS	concrete





В		N	G	O
leather shoe		paper towels	O co	7
GAS \$	SOUP	WILK Joe	Plastic BAG	BERSWAX CANOLES
BOOK		FEATHER	ICE CREAM	ENVELOPE
newspaper	GLASS	STRAW	NUTS AND BOLTS	COAL
leather baseball	COTTON	BRICKS	concrete	HOR.





В		N	G	O
	paper towels	(C) CO	P	GAS \$
SOUP	MILK JOG	新新	BEESWAXS	BOOK
	FEATHER	ICE CREAM	ENVELOPE	newspaper
GLASS	STRAW	NO BOLTS	COAL	leather baseball
COTTON	BRICKS	concrete	TO STATE OF THE PARTY OF THE PA	HAMBURGER





В		N	G	O
paper towels	O Co		GAS \$	SOUP
W.ITK 100	Plastic BAG	BETSWAX	BOOK	
FEATHER	ICECREAM	ENVELOPE	newspaper	GLASS
STRAW	AND BOLTS	COAL	leather baseball	COTTON
BRICKS	concrete	TOP	HAMBURGER.	wool sweater





В		N	G	O
O c c c c c c c c c c c c c c c c c c c	7	GAS \$	Soup	W/FK 100
Plastic BAG	BERSWAXS	BOOK		FEATHER
ICE CREAM	ENVELOPE	newspaper	GLASS	STRAW
AND BOLTS	COAL	leather baseball	COTTON	BRICKS
concrete	Tol	HAMBURGER.	wool sweater	glass window





В		N	G	O
	GAS \$	SOUP	MILK JUG	Plastic BAG
BERSWAX CANOLES	BOOK		FEATHER	ICE CREAM
ENVELOPE	newspaper	GLASS	STRAW	ANO BOLTS
COAL	leather baseball	COTTON	BRICKS	concrete
TOP I	HAMBURGER	wool sweater	glass window	leather shoe





В		Ν	G	O
GAS \$	Soup	MILK 706	Plastic BAG	BECSWAX
BOOK		FEATHER	ICE CREAM	ENVELOPE
newspaper	GLASS	STRAW	ANO BOLTS	COAL
leather baseball	COTTON	BRICKS	concrete	Tor
HAMBURGER.	wool sweater	glass window	leather shoe	





В		N	G	0
SOUP	MILK JOG	Plastic BAG	BEESWAX CANOLES	BOOK
	FEATHER	ICE CREAM	ENVELOPE	newspaper
GLASS	STRAW	ANO BOLTS	COAL	leather baseball
COTTON	BRICKS	concrete	TOP I	HAMBURGER
wool sweater	glass window	leather shoe		paper towels





В		N	G	O
MILK JUG	Plastic BAG	BERSWAX CANOLES	BOOK	
FEATHER	ICE CREAM	ENVELOPE	newspaper	GLASS
STRAW	NUTS ANO BOLTS	COAL	leather baseball	COTTON
BRICKS	concrete	TOP?	HAMBURGER.	wool sweater
glass window	leather shoe		paper towels	O co





В		N	G	O
Plastic BAG	BERSWAX	BOOK		FEATHER
ICE CREAM	ENVELOPE	newspaper	GLASS	STRAW
ANO BOLTS	COAL	leather baseball	COTTON	BRICKS
concrete	HOR.	HAMBURGER.	wool sweater	glass window
leather shoe		paper towels	O coo	





В		N	G	O
BEESWAX CANOLES	BOOK		FEATHER	ICE CREAM
ENVELOPE	newspaper	GLASS	STRAW	ANO BOLTS
COAL	leather baseball	COTTON	BRICKS	concrete
TOP I	HAMBURGER.	wool sweater	glass window	leather shoe
	paper towels	O co		GAS \$





В		N	G	O
BOOK		FEATHER	ICECREAM	ENVELOPE
newspaper	GLASS	STRAW	NUTS AND BOLTS	COAL
leather baseball	COTTON	BRICKS	concrete	TO S
HAMBURGER	wool sweater	glass window	leather shoe	
paper towels	O c c c c c c c c c c c c c c c c c c c	7	GAS \$	SOUP





В		N	G	O
	FEATHER	ICE CREAM	ENVELOPE	newspaper
GLASS	STRAW	NUTS NUTS NUTS	COAL	leather baseball
COTTON	BRICKS	concrete	TOP R	HAMBURGER
wool sweater	glass window	leather shoe		paper towels
O co		GAS \$ 000	SOUP	W.IFK 100





В		N	G	O
FEATHER	ICE CREAM	ENVELOPE	newspaper	GLASS
STRAW	NUTS AND BOLTS	COAL	leather baseball	COTTON
BRICKS	concrete	Tor.	HAMBURGER	wool sweater
glass window	leather shoe		paper towels	O coo
	GAS \$	Soup	MILK JUG	Plastic BAG





В		N	G	O
ICE CREAM	ENVELOPE	newspaper	GLASS	STRAW
AND BOLTS	COAL	leather baseball	COTTON	BRICKS
concrete	TOP	HAMBURGER	wool sweater	glass window
leather shoe		paper towels	O Cook	
GAS \$	Soup	WIFK 200	Plastic BAG	BEESWAX CANOLES





В		N	G	O
ENVELOPE	newspaper	GLASS	STRAW	NUTS AND BOLTS
COAL	leather baseball	COTTON	BRICKS	concrete
TOR	HAMBURGER	wool sweater	glass window	leather shoe
	paper towels	O c c c c c c c c c c c c c c c c c c c	7	GAS \$
Soup	MILK JUG	Plastic BAG	BEESWAX CANOLES	BOOK





В		N	G	O
newspaper	GLASS	STRAW	ANO BOLTS	COAL
leather baseball	COTTON	BRICKS	concrete	THE SECOND
HAMBURGER	wool sweater	glass window	leather shoe	
paper towels	Oct Cool	(GAS \$	Soup
MILK JUG	Plastic BAG	BEESWAX CANOLES	BOOK	





В		N	G	O
GLASS	STRAW	AND BOLTS	COAL	leather baseball
COTTON	BRICKS	concrete	Tol.	HAMBURGER
wool sweater	glass window	leather shoe		paper towels
O cool		GAS \$	Soup	WILK JOG
Plastic BAG	BEESWAX CANOLES	BOOK		FEATHER





В		N	G	O
STRAW	NUTS BO ANO BOLTS	COAL	leather baseball	COTTON
BRICKS	concrete	Mal.	HAMBURGER	wool sweater
glass window	leather shoe		paper towels	O Cook
7	GAS \$	Soup	MILK JUG	Plastic BAG
BEESWAX	BOOK		FEATHER	ICE CREAM





В		N	G	O
AND BOLTS	COAL	leather baseball	COTTON	BRICKS
concrete	Tor	HAMBURGER	wool sweater	glass window
leather shoe		paper towels	O C C C C C C C C C C C C C C C C C C C	
GAS \$ 1	SOUP	MILK JUG	Plastic BAG	P S S S S S S S S S S S S S S S S S S S
BOOK		FEATHER	ICE CREAM	ENVELOPE





В		N	G	O
newspaper	leather baseball	TOP!	leather shoe	
Plastic BAG	FEATHER	GLASS	COTTON	HAMBURGER.
	GAS \$	BECSWAX CANOLES	ICE CREAM	STRAW
BRICKS	wool sweater	paper towels	SOUP	BOOK
ENVELOPE	AND BOLTS	COAL	concrete	glass window





В		N	G	O
	newspaper	leather baseball	Told the state of	leather shoe
7	Plastic BAG	FEATHER	GLASS	COTTON
HAMBURGER		GAS \$	BETSWAX CANOLES	ICE CREAM
STRAW	BRICKS	wool sweater	paper towels	SOUP
BOOK	ENVELOPE	AND BOLTS	COAL	concrete





В		N	G	O
WILK JOG		newspaper	leather baseball	TOR
leather shoe		Plastic BAG	FEATHER	GLASS
COTTON	HAMBURGER		GAS \$	BELSON
ICE CREAM	STRAW	BRICKS	wool sweater	paper towels
Soup	BOOK	ENVELOPE	NUTS AND BOLTS	COAL





В		N	G	O
O a good	MILK JUG		newspaper	leather baseball
TOP?	leather shoe		Plastic BAG	FEATHER
GLASS	COTTON	HAMBURGER		GAS \$
BETSWAX CANOLES	ICE CREAM	STRAW	BRICKS	wool sweater
paper towels	Soup	BOOK	ENVELOPE	AND BOLTS





В		N	G	0
glass window	Cook	JA KA		newspaper
leather baseball	TOP	leather shoe		Plastic BAG
FEATHER	GLASS	COTTON	HAMBURGER	
GAS \$	BERSWAX	ICE CREAM	STRAW	BRICKS
wool sweater	paper towels	Soup	BOOK	ENVELOPE





В		Ν	G	O
concrete	glass window	O co	MILK JUG	
newspaper	leather baseball	Tor	leather shoe	
Plastic BAG	FEATHER	GLASS	COTTON	HAMBURGER.
	GAS \$	BELANDES	ICE CREAM	STRAW
BRICKS	wool sweater	paper towels	Soup	800K

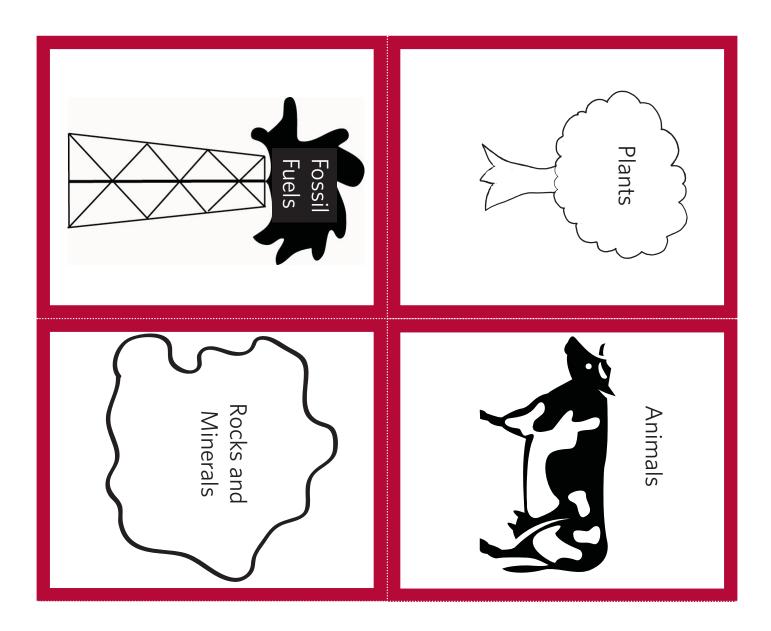




В		N	G	O
COAL	concrete	glass window	O a constant	MILK TOG
	newspaper	leather baseball	TOP?	leather shoe
	Plastic BAG	FEATHER	GLASS	COTTON
HAMBURGER		GAS \$	BEESWAX CANOLES	ICE CREAM
STRAW	BRICKS	wool sweater	paper towels	Soup









Natural Resources Bingo

GRADE LEVELS
SUBJECTS
DURATION
SETTING

2nd-8th, California Content Standards for 2nd and 6th

Earth Sciences, Life Sciences

Preparation: 15 minutes Activity: 60 minutes

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.



