

Waste-Less Lunch

Grades K-5

Lesson Summary

Students analyze their lunches and learn how to conserve natural resources by packing a “waste-less” lunch.

Overview

In this lesson, students will:

- Survey their lunch packaging and leftover food waste.
- Determine the natural resource from which their waste is made.
- Discuss environmental impacts of resource extraction.
- Find ways to conserve natural resources by reducing, reusing, recycling and composting.

Time

30-45 minutes for lesson

Background

Planet Earth is an amazing place that is home to billions of people, animals and plants. Natural resources like water, sun, trees, oil and minerals come from nature and are used or made into the things we want and need to survive. While some natural resources like the sun and the wind can be used with little effect or damage to the environment, extracting other natural resources, like trees and oil can have negative impacts on the earth. Animal habitats can be destroyed or severely changed when we clear forest areas for oil drilling or logging. Rivers, streams and watersheds can become polluted, and our air becomes dirty from using certain natural resources like oil. While it is impossible not to use natural resources for life on Earth as we know it, it is possible to be smart about the resources we do use in order to make less of a negative impact on the environment.

When we pack lunches for school, we can make choices that help protect the environment. By using more reusable items and less throwaway products and packaging, we can help protect animal habitat. We can also choose products and packaging that can be recycled or composted in order to send less waste to the landfill, and conserve our natural resources. For instance, instead of buying “lunch-able” type products that contain a lot of plastic waste that ends up in the garbage, we can pack our lunches in reusable containers. We can also bring cloth napkins to school instead of using paper napkins, and we can use cloth lunch bags instead of paper bags. Drinks can be stored in a thermos and reusable mugs or cups can be used instead of disposable ones.

When we do our best to conserve natural resources by reducing the amount of things we use, reusing those things we have, and recycling and composting our waste, we help protect the natural world and all living things that depend on a healthy environment.

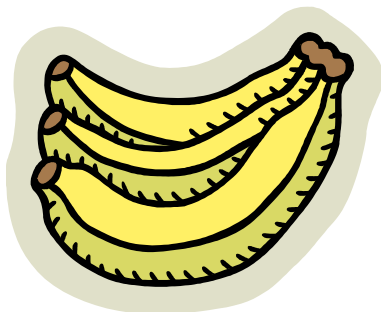
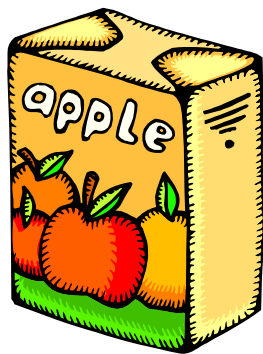


Vocabulary

- Packaging
- Natural resources
- Habitat

Materials

- *Waste-Less Lunch Sheet* —1 per student
- *Natural Resources Fact Sheet (gr.3-5)*
- Lunch discards from cafeteria or home lunches (*Note: Make sure you have enough lunch materials gathered to develop a good sample for sorting.*)
- Four bags or buckets labeled: Compost, Recycle, Reuse, Landfill

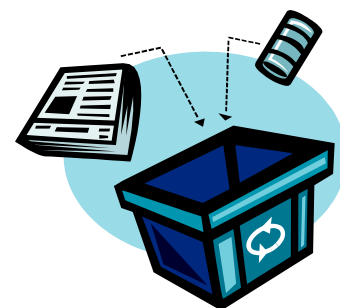
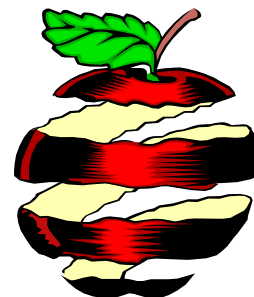


Preparation

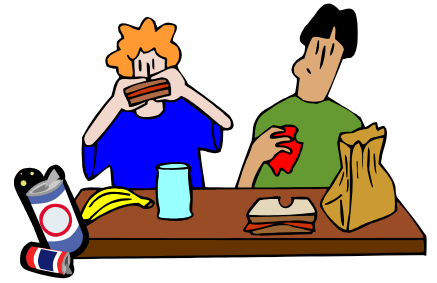
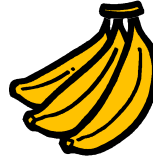
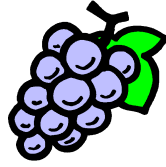
1. Read background information and *What are Natural Resources?* Fact Sheet.
2. Set up bags or buckets in classroom with signs that read: Reuse, Recycle, Compost and Landfill.
3. Before lunch, ask your students to bring everything left over from their lunch back to the classroom. Hand out used bags if needed. Students should include all uneaten food and packaging materials. Nothing should be thrown away or recycled until the *Waste-Less Lunch* sheet is filled out.
4. After lunch, take a sample lunch, which will be used to discuss the leftover contents with students. The sample should include some sort of container (typically a disposable paper bag or cardboard tray), food scraps, plastic bottle or packaging, paper napkins, aluminum can and plastic utensils.
5. Pass out *What are Natural Resources?* Fact Sheet (for Gr. 3-5) and have students read alone or aloud as a group.
6. Tell students they are going to examine their everyday lunches to learn more about natural resources.
7. Ask students what natural resources are. (*Natural resources come from nature and are used or made into the things we want and need to survive.*)
8. Hold up a paper napkin, bag or cardboard tray and ask what natural resource was used to make that paper item? (*Trees*)
9. Ask students where trees are found and why trees are important to the health of the planet. (*Trees are found in forests, and trees make oxygen, help keep the planet cool by preventing global warming, and provide habitat to over half of all the worlds animals.*)
10. Hold up a plastic bottle, utensil or wrapping and ask from which natural resource does plastic come. (*oil or petroleum*)
11. Ask students if they know from where oil comes? (*It comes from fossils buried deep underneath the ground in places like the rainforest, the Middle East and the ocean floor.*)
12. Discuss some consequences that oil drilling has on the environment. (*Oil spills pollute the land and water; animal habitat is cleared or destroyed for oil drilling machinery and pipelines; burning oil creates air pollution*)
13. Hold up an aluminum can and ask which natural resource was used to make the can. (*a mineral called "bauxite"*)
14. Where is one place bauxite comes from and what affect does bauxite mining have on the environment? Name some animals that might be affected by this mining. (*Bauxite is mined from the rainforests, which destroys the natural habitat of the jaguar, toucan and spider monkey.*)
15. Hold up a scrap of food like a banana peel or apple core and ask which natural resources were needed to make this food. (*plants, soil, sun and water*)

16. Ask students if it is possible to live on Earth and not use natural resources. (*no*)
17. Ask students if it is possible to conserve natural resources and not waste them. (*yes*)
18. Introduce the concept of *Reduce, Reuse and Recycle*. First we try to reduce the amount of something we use. Then we try to reuse it. Lastly we recycle it or compost it. Sending it to the landfill as trash is a last resort.
19. Hold up the paper napkin or paper bag. Remind students that paper comes from trees and ask what they can do to help save trees and forests. (*Reduce amount of paper napkins they use. Bring cloth napkins to school and reuse them over again. Compost all used paper napkins. Paper bags can be reused before they are composted or recycled; cloth bags or lunch pails can be used instead of paper bags.*)
20. Hold up the plastic bottle, utensil or wrapping. Remind students that plastic is made from oil and ask them what they can do to use less oil. (*Try to use less plastic. Bring drinks in a thermos or use a glass bottle. Drink out of a mug, glass or hard reusable plastic. Don't take plastic utensils unless needed. Bring reusable utensils to school. Choose products that don't have excessive packaging.*)
21. Hold up the aluminum can. Remind students that aluminum is made from "bauxite" which is a mineral that gets dug up from the rainforest. Knowing this, ask what they can do to help save the rainforests? (*Use less aluminum. Drink out of reusable mugs and glasses. Use a thermos. Wrap food in reusable plastic or glass containers instead of foil. Recycle all cans.*)
22. Hold up the food scrap. Remind students that food comes from natural resources like plants. Explain that food is "organic matter," meaning it was once a living thing, and it can be composted. Composting is nature's way of recycling organic matter back into soil so it can grow more food.
23. Hand out *Waste-Less Lunch Sheets* and tell students they are to go through each item left over from their lunch and fill out the sheet. They must include what type of material it is: reusable, recyclable, compostable, or trash that must go to the landfill. (*Note: For younger grades, you can skip this or do it on the board with each student sharing their input.*)
24. When they are done filling out their chart, each student should take each item and place it in the appropriate bucket.
25. Graph the total number of items per bucket on the board and times the totals by five to show a week's worth of items that are reused, recycled, composted, or sent to the landfill. (*Note: Students can do the math and graph.*)
26. Ask students to analyze graph findings and name three ways they can help waste less at lunch. Ask them to try to do these things they suggested. On a selected day the following week, do another *Waste-Less Lunch* sheet and compare results.

Note: Food soiled paper products like napkins, pizza boxes, and milk cartons can be put into San Francisco's green composting cart. Anything that was once a living thing (*organic matter*) can be composted in the green carts.



Waste-Less Lunch Sheet



Describe Item Reuse Recycle Compost Landfill Could Replace With:

Describe Item	Reuse	Recycle	Compost	Landfill	Could Replace With:
BANANA PEEL			X		
WHOLE ORANGE	X				
JUICE BOX				X	REUSABLE THERMOS OR REUSABLE PLASTIC BOTTLE OF JUICE

Name _____

Date _____

Waste-Less Lunch

CA Standards K-5



Kindergarten

Science ♦ 1a ♦ 3c ♦ 4 ♦ 4a ♦ 4b	Properties of materials can be observed, measured, and predicted. As a basis for understanding this concept students know objects can be described in terms of the materials they are made of (e.g., clay, cloth, paper) and their physical properties. Earth is composed of land, air, and water. As a basis of understanding this concept, students know how to identify resources from Earth that are used in everyday life and understand that many resources can be conserved. Scientific process is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept...students will Describe the properties of common objects. Compare and sort common objects by one physical attribute.
Language Arts ♦ LS1.1 ♦ LS1.2	Understand and follow one- and two-step oral directions. Share information and ideas, speaking audibly in complete, coherent sentences.

Abbreviations

Language Arts: R=Reading; W=Writing; LC= Language Conventions; LS=Listening/Speaking

Math: N=Number Sense; A=Algebra; MG=Measurement/Geometry; S=Statistics/Data Analysis; MR=Mathematical Reasoning



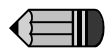
Grade 1

Science ♦ 2b	Students know both plants and animals need water, animals need food, and plants need light.
Language Arts ♦ R1.1 ♦ LS1.1 ♦ LS1.4	Match oral words to printed words. Listen attentively. Stay on the topic when speaking.
Math ♦ N1.0 ♦ N1.1	Students can understand and use numbers up to 100. Count, read and write whole numbers to 100.

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Grade 2

Science ◆ 3e	Earth is made of materials that have distinct properties and provide resources for human activities. As the basis for understanding this concept, students know rocks, water, plants, and soil provide many resources, including food, fuel, and building material, that humans use.
Language Arts ◆ R1.6 ◆ R2.5 ◆ R2.6 ◆ R2.7 ◆ LS1.4 ◆ LS1.6	Read aloud fluently and accurately and with appropriate intonation and expression. Restate facts and details in the text to clarify and organize ideas. Recognize cause-and-effect relationships in a text. Interpret information from diagrams, charts, and graphs. Give and follow three- and four-step oral directions. Speak clearly and at an appropriate pace for the type of communication (e.g., informal discussion, report to class).
Math ◆ NS3.3 ◆ S1.1 ◆ S1.2 ◆ S1.4	Know the multiplication tables of 2s, 5s, and 10s (to “times 10”) and commit them to memory. Record numerical data in systematic ways, keeping track of what has been counted. Represent the same data set in more than one way (e.g., bar graphs and charts with tallies.) Ask and answer simple questions related to data representations.

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Grade 3

History/Social Science ◆ 3.5 ◆ 3.5.1 ◆ 3.5.2 ◆ 3.5.3	Students demonstrate basic economic reasoning skills and an understanding of the economy of the local region. Students will... Describe the ways in which local producers have used and are using natural resources...to produce goods and services in the past and the present. Understand that some goods are made locally, some elsewhere in the United States, and some abroad. Understand that individual economic choices involve trade-offs and the evaluation of benefits and costs.
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Grade 3 continued

Science ◆ 3 ◆ 3b ◆ 3d	<p>Adaptations in physical structure and behavior may improve an organism's chance for survival. As a basis for understanding this concept...</p> <p>Students know examples of diverse life forms in different environments, such as oceans, deserts, tundra, forests, grasslands, and wetlands.</p> <p>Students know when the environment changes some plants and animals survive and reproduce; others die or move to new locations.</p>
Language Arts ◆ R2.2 ◆ R2.2 ◆ R2.6 ◆ LS1.3	<p>Ask questions and support answers by connecting prior knowledge with literal information found in, and inferred from, the text.</p> <p>Demonstrate comprehension by identifying answers in the text.</p> <p>Extract appropriate and significant information from the text, including problems and solutions.</p> <p>Respond to questions with appropriate elaboration.</p>
Math ◆ NS2.0	<p>Students calculate and solve problems involving addition, subtraction, multiplication and division:</p>

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Grade 4

Language Arts ◆ R1.1 ◆ R2.2 ◆ LS 1.1	<p>Read narrative and expository text aloud with grade-appropriate fluency and accuracy and with appropriate pacing, intonation, and expression.</p> <p>Use appropriate strategies when reading for different purposes (e.g., full comprehension, location of information, personal enjoyment).</p> <p>Ask thoughtful questions and respond to relevant questions with appropriate elaboration in oral settings.</p>
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Grade 5

Language Arts ◆ R2.3	Discern main ideas and concepts presented in texts, identifying and assessing evidence that supports those ideas.
Science ◆ 6g	Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept...students will record data by using appropriate graphic representations (including charts, graphs and labeled diagrams) and make inferences based on those data.

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