



Lesson: We Can Recycle

Grade: 4-5

Subject: Science, Social Science

Objectives:

Students will:

- understand the role consumers play in “closing the loop” by purchasing recycled products
- identify the parts and meaning of the universal recycling symbol
- learn about recycling in their community

Teaching Time: 30-40 minutes

Materials: transparencies, Recycling Symbol: the Chasing Arrows and Closing the Loop with Recycled Paper Products; worksheets, My Family Can Recycle and Save These from the Garbage Can!; drawing paper; pens, markers, etc.

Vocabulary:

pre-consumer content
post-consumer content

Background:

This lesson will introduce recycling as part of a man-made cycle and will discuss the importance of buying products with recycled content in order to support recycling markets. Remind students of the natural cycles that were discussed in “Our Natural Resources”. People often ask why certain types of materials are not recyclable in their community. Whether or not a city or county recycles certain materials depends on a mix of factors like the ability reasonably resell the materials to an end user, the total distance to that market, the technology available and associated costs. For more information on what happens to materials once they leave your home, read “The Recycling Process After Collection” in the Resource section.

If you do not already thoroughly understand what can and can’t be recycled in your community, contact your city or county solid waste management department or department of public works so that you can help students correctly fill out their worksheet “My Family Can Recycle.”

Procedures:

- **Who knows what a “symbol” is?**
- **Symbol:** something that represents something else by association, resemblance, or convention; especially, a material object used to represent something invisible.
- **Can you name some symbols that are common in our lives?**
Students should know that a symbol is a visible sign that often stands for something, even if that thing is invisible. Examples include: the flag - our country, the Star of David - Judaism, a cross - the Christian religion, a peace sign - peace, a lion - courage, and advertising logos - a manufacturer.
- **Can anyone come up to the board and draw the symbol for recycling?**
- Now show the transparency, “Recycling Symbol: the Chasing Arrows.”
- Discuss the different parts of the symbol. Carefully review with the students the difference between “recycled-content” and “recyclable.”
- **Can these symbols be a bit confusing?** Yes, it might be assumed that an item is made from recycled materials, whereas the symbol is only indicating that it could be recycled!
- **Some people believe that if a recycle symbol is on the package of a product that the product is automatically able to be recycled. However, this is also not true. In different communities and different parts of Oregon, some materials are collected, but others are not. In order to know how to recycled properly, we have to call our city or county solid waste management department in order to know what we can and can’t recycle!**
- **Let’s take turns naming the materials that we collect in our community.**
- **Another important part of recycling is buying products that contain recycled-content. Who knows why this would be important?** See what kind of responses the students give, and then help them understand that if people didn’t buy the products with

REDUCE
REUSE
RECYCLE

recycled-content, the materials that we put in our curbside bin or take to the recycling depot would have no value at all. By buying paper with recycled-content, for example, we create a DEMAND for that type of product. **On paper products and some plastic bottles, we have to look for the words “post-consumer content”. Consumer--that’s you! And “post” means after you’ve used and recycled the product to be made into something new. Some materials, like newspapers, glass bottles, aluminum cans and steel (tin) cans, all have some recycled-content in them, even though the labels may not tell you so.**

- Show the transparency, “Closing the Loop with Recycled Paper Products.” Use the transparency to review that “the loop” is broken when products are taken to the landfill.

Reflection/Response:

- **What happens to a recyclable item that is placed in a landfill instead of being recycled? It is buried and the natural resources used to make it are lost.**
- **Why are they lost, can’t they decompose inside the landfill and go back into the earth? Generally, no. There is very little air and no sunlight that allows decomposition to take place.**
- **Why is it important to keep items in the recycling loop? To conserve natural resources for future generations.**
- **How can we keep natural resources in the loop? Always recycling whatever we can, buying recycled-content products, composting, practicing waste reducing behaviors, etc.**
- Complete the worksheets “My Family Can Recycle” and “Save These From the Garbage Can!”

Extensions:

- Ask students to find five items in their homes that are made from recycled-content materials. For example, they can examine cereal boxes or other cardboard boxes that contain dry food and look for the label that indicates that the box is made from recycled materials, other products would be paper egg cartons, newspapers, brown bags from the grocery, aluminum cans, some types of plastic bottles.
- Have students share their homework assignments.

Oregon Common Curriculum Goal:

Science: Unifying Concepts and Processes

- Apply foundation concepts of change, cycle, cause and effect, energy and matter, evolution, perception, and fundamental entities.

Social Science: Economics

- Understand that resources are limited (e.g., scarcity, opportunity, cost).

Grade 5 Benchmark:

Students will:

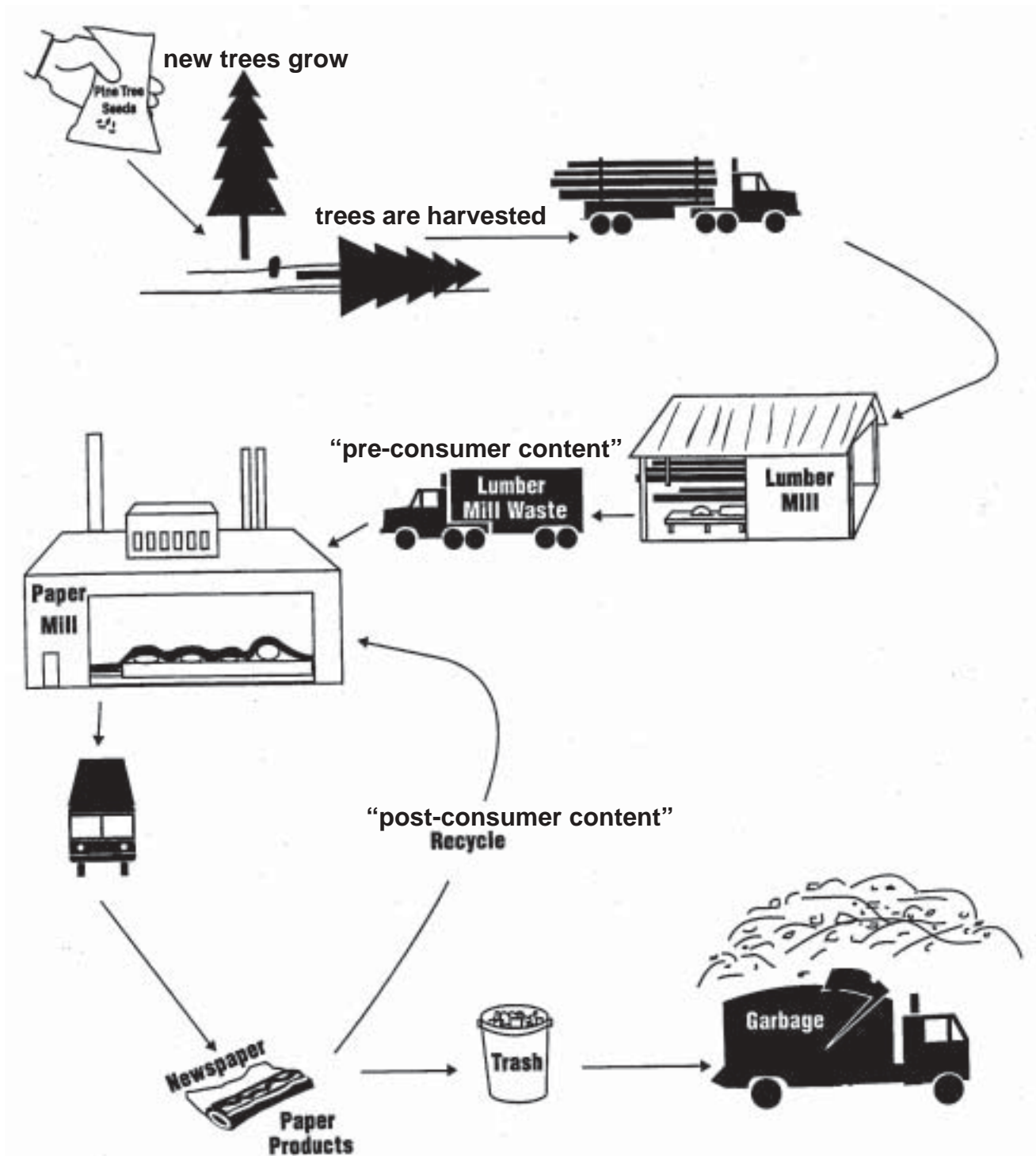
- Recognize and describe cycles in natural and man-made systems.
- Understand that all economic choices have costs and benefits, and compare options in terms of costs and benefits.
- Understand how supply and demand influence price, and how price increases or decreases influences the decisions of consumers.

*This lesson is a great opportunity to invite a guest speaker to speak about recycling and solid waste management in your community. (See Field Trip Guide to find out about opportunities in your area).



Overhead: Closing the Loop

Closing the loop with recycled paper products.



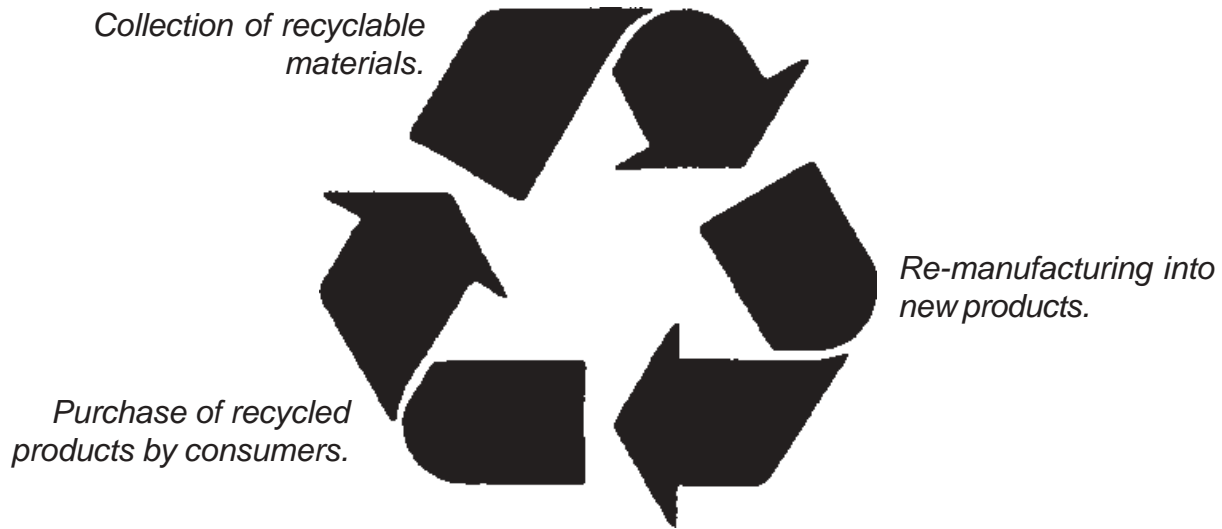
Post-consumer paper fibers get recycled numerous times before they become “waste” paper products like tissue or toilet paper because the fibers are so short they cannot be recycled any longer.

Source: California Integrated Waste Management Board: *Closing the Loop: Exploring Integrated Waste Management and Resource Conservation K-6* (2000)

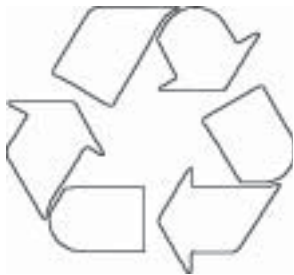


Overhead: Recycling Symbol - The Chasing Arrows

This is the universal symbol for recycling. The three arrow design represents a never-ending process: the three phases of recycling. If you look carefully, you can see the outline of a tree in the center of the symbol.



Recycled: This symbol identifies products and packages that are made at least partially from material that has been used before, i.e. “post-consumer waste”, which is waste from your home, school, or office. These products also usually contain “pre-consumer waste” fibers, such as wood waste scraps from a timber mill.



Recyclable: This symbol identifies products and packages that can be recycled, if markets exist in your community or region. In other words, it can be sorted from your garbage, collected by your local recycler, and made into a new product.

Keep in mind that a product can be both recyclable and recycled, like the paper used to print these activities. It contains 50% post-consumer recycled waste paper and 50% unbleached pulp. It can also be made into new paper if you recycle it again.



Worksheet: My Family Can Recycle

Dear Parent: your child has been learning about recycling as a way to conserve natural resources, help manage the garbage problem, and reduce pollution. The following list shows what can be recycled in this community. Please keep it as a guide if you do not already have one.

Plastic



- rinse, flatten
- no caps
- numbers 1 2 3 4 5 6 7 (circle the numbers that can be recycled in your community)



Glass



- mix all colors together
- recycle metal lids
- separate clear brown green (circle the colors that are separated)



Metal



- rinse, remove label (recycle label with scrap paper)
- flatten, remove ends
- do not remove ends



Motor Oil



- take to an authorized collector (auto store, gas station, service center)
- at curbside, in a container with a tight fitting lid

Cardboard



- flatten
- no pieces larger than _____



Scrap paper (mixed paper)



- writing paper, mail
- grayboard (cereal boxes, egg cartons, etc.)
- no wax coated papers (freezer containers, etc.)
- separate from newspaper



Newsprint

- bundled
- include magazines with newspaper
- not bundled



The _____ Family Recycles! Because we want Oregon to remain a beautiful place to live, our family pledges to recycle as much as we can, as often as possible.



Worksheet: Save These From The Garbage Can!

Student Name: _____

Draw a line from the things going into the garbage to the right place where they would be recycled.
Draw a line to the art project box if they item could be reused before recycling.

