

GRADE

Grades 6–12

PLACE

Classroom / Home

DURATION

45 minutes

## OVERVIEW

Students will learn about Rethinking, Reducing, Reusing, & Recycling. This lesson focuses on the importance of waste reduction and rethinking purchasing and consumption in our daily lives. A PowerPoint presentation, with notes, has been developed to assist teachers with introducing waste reduction concepts, local facts/stats, describing the school and local recycling programs, and how students can make a difference. The SWACO 4R's kit contains recycled content and reused products that students will have the opportunity to pass around for discussion. Students can begin to evaluate their own waste habits by conducting the Take-Home Recycling Survey and the Personal Trash Survey Activities.

### LEARNING OUTCOMES

- Students will learn the concepts of rethinking, reducing, reusing, recycling, and their importance as materials management options.
- Students will gain an understanding of natural resources and how they can become depleted.
- Students will learn how to “Close the Loop” in recycling.
- Students will learn what is accepted for recycling in their school and home programs.

### MATERIALS

- SWACO's 4 R's kit for loan. Includes: recycled-content products, examples of natural resources, and products made from natural resources.
- SWACO's 4R's PP presentation.
- Copies of the Take Home Recycling activity.
- Copies of the Personal Trash Survey activity.

### TEACHER PREP

- Email [schools@swaco.org](mailto:schools@swaco.org) to request to borrow SWACO's 4 R's teacher kit. Arrangements will need to be made to pick it up from SWACO.
- Review the 4 R's kit and familiarize yourself with the items in the kit so that you can facilitate a discussion with students about products that have been reused and made from recycled-content materials.
- Review the PowerPoint presentation to familiarize yourself with the Notes and content in the presentation. Request a link to the PP presentation by emailing [schools@swaco.org](mailto:schools@swaco.org).



## INSTRUCTIONS

- 1 Walk through the PowerPoint presentation with students while discussing waste reduction concepts and local facts/stats found in the PP presentation Notes.
- 2 Pass around reused and recycled content products from the SWACO 4R's kit and discuss why It Is important to buy products made with recycled content materials and how students can make a difference by making informed purchases.
- 3 Have students complete the Personal Waste Inventory and/or the Take-Home Recycling Questionnaire as follow-up activities.



## KEY TERMS

**Rethink** - it's not enough just to put recyclables in the bin; you must rethink about what you can do to root out unnecessary wastefulness. Think about items that you are purchasing and ask yourself "Is this product over packaged? Is it made from recycled-content materials? Is it repairable? Is it accepted for recycling?" If the answer is "No" to any of these questions, you should Rethink the purchase.

**Reduce** - A process of elimination that involves diminishing the amount of waste produced to eliminate the generation of wasted materials.

**Reuse** - Reuse can be practiced easily by reusing an item over and over again. You can breathe new life into many common household objects by discovering new and innovative ways of reusing them. Before you throw it away, take a moment and learn useful tips that will allow you to repurpose and reuse numerous items found in your home.

**Recycle** – The act of collecting and separating materials and products from the solid waste stream and reusing them as raw materials in manufacturing processes. Remember: you're not truly recycling until you buy recycled goods! By purchasing products made with recycled materials, you are helping to close the recycling loop.

**Natural Resource** – Material extracted from nature, not made by humans. Material such as: ores, plants, animals. The source of all consumer products made of paper, plastic, steel, aluminum, glass, etc.

**Renewable Natural Resource** – Renewable natural resources can grow again or never run out. They can be replenished fast enough as being used.



**Non-renewable Natural Resource** – Nonrenewable natural resources can run out or be used up. They usually come from the ground and cannot be readily replaced by natural means on a level that is equal to consumption.

**Consumer** - A person who purchases goods and services for personal use.

**Product Life-cycle Analysis** – A method of accounting for all of the environmental impacts from a single-product.

**Throw-away society** - The throw-away society is a human society strongly influenced by consumerism. The term describes a critical view of overconsumption and excessive production of short-lived or disposable items over durable goods that can be repaired.

**Circular Economy** – A regenerative system in which resource input and waste, emission, and energy leakage are minimized by slowing, closing, and narrowing energy and material loops; this can be achieved through long-lasting design, maintenance, repair, reuse, remanufacturing, refurbishing, recycling, and upcycling. A circular economy contrasts a linear economy, which is a 'take, make, dispose' model of production

## EXTENSION ACTIVITIES

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**Personal Waste Inventory student activity** - students track their waste for 1 week and then sort.

**Home Recycling Questionnaire student activity** - students take the questionnaire home to discuss with parents.

Please download both on SWACO's School Recycling Resources webpage under Teacher Lesson Plans and Student Activities.



The 4'R's  
You Can Make a  
Difference!

# The 4 R's



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**Reduce** - A process of elimination that involves diminishing the amount of waste produced to eliminate the generation of wasted materials.

# The 4R's



**Reuse** - Reuse can be practiced easily by reusing an item over and over again. Before you throw it away, take a moment and learn useful tips that will allow you to repurpose and reuse numerous items found in your home.



**Recycle** - The act of collecting and separating materials and products from the solid waste stream and reusing them as raw materials in manufacturing processes.



**4,000**  
tons per day  
*wasted*  
materials

=



**x800**



# What's Landfilled?

CONTAINER GLASS | 2.7%

METALS | 4.2%

WOOD | 5.4%

YARD/PET WASTE | 5.9%

TEXTILES | 8.0%

FOOD WASTE | 12.8%

OTHER | 14.2%

PLASTICS | 17.1%

FIBERS | 29.2%



# % of landfilled materials could be recycled/ recovered?





x200,000

1,000,000 tons



=



# RECYCLE



**PLASTIC BOTTLES & JUGS**  
Please empty, leave lids on

**CARTONS**  
Remove lids

**GLASS BOTTLES & JARS**  
Remove lids



**PAPER & CARDBOARD**  
Please flatten boxes



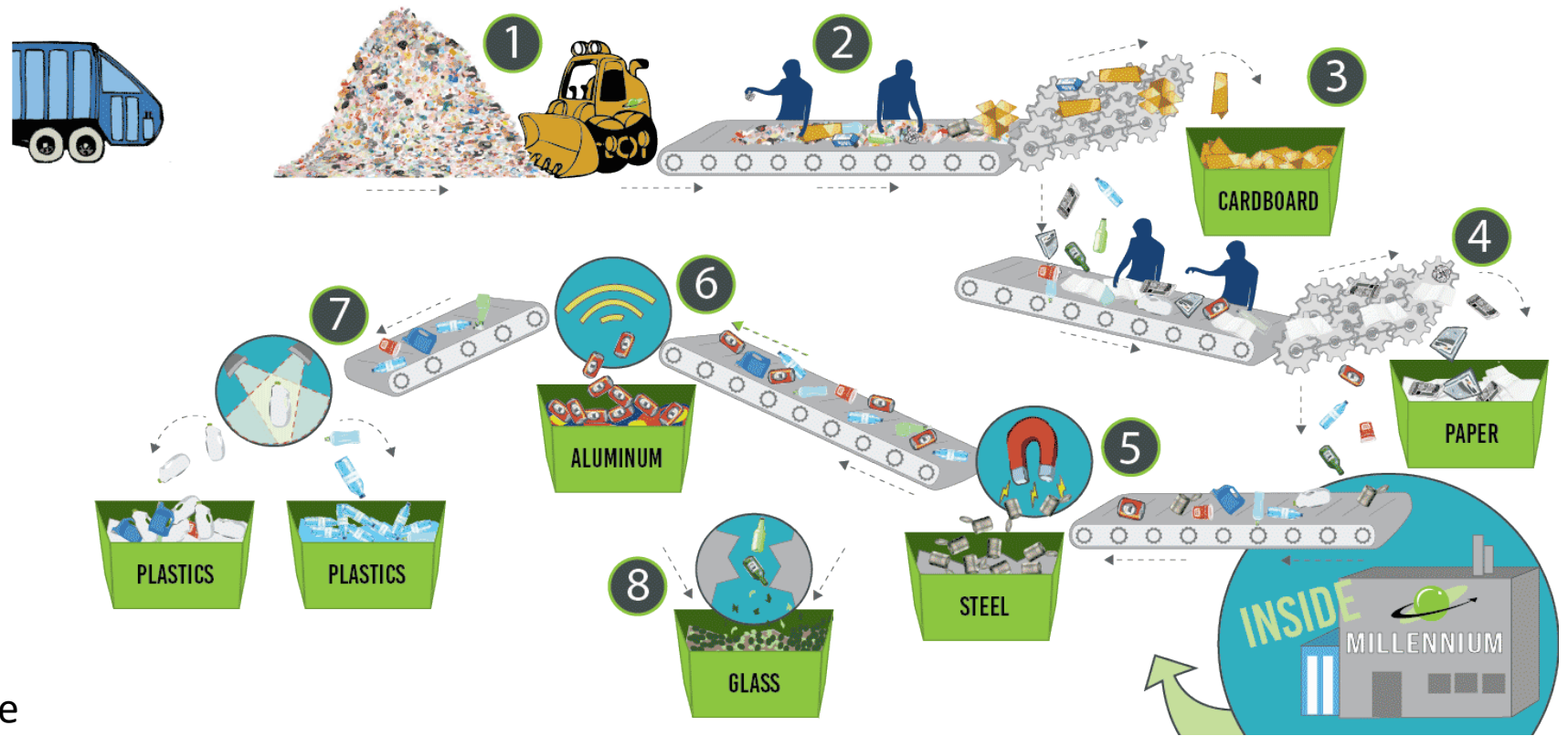
**METAL CANS**  
Food & drink only

 Recycle Right  
MAKE A DIFFERENCE

**SWACO**

# Materials Recovery Facility (MRF)

Click [Here](#) to view a video of the sorting process at Rumpke





# LANDFILL



PLASTIC & FOAM CUPS



PLASTIC & FOAM CONTAINERS



PLASTIC BAGS & FILM



UTENSILS / STRAWS



FOIL



CHIP BAGS / WRAPPERS



NAPKINS / TISSUES /  
PAPER TOWELS

 Recycle Right  
MAKE A DIFFERENCE

**SWACO**

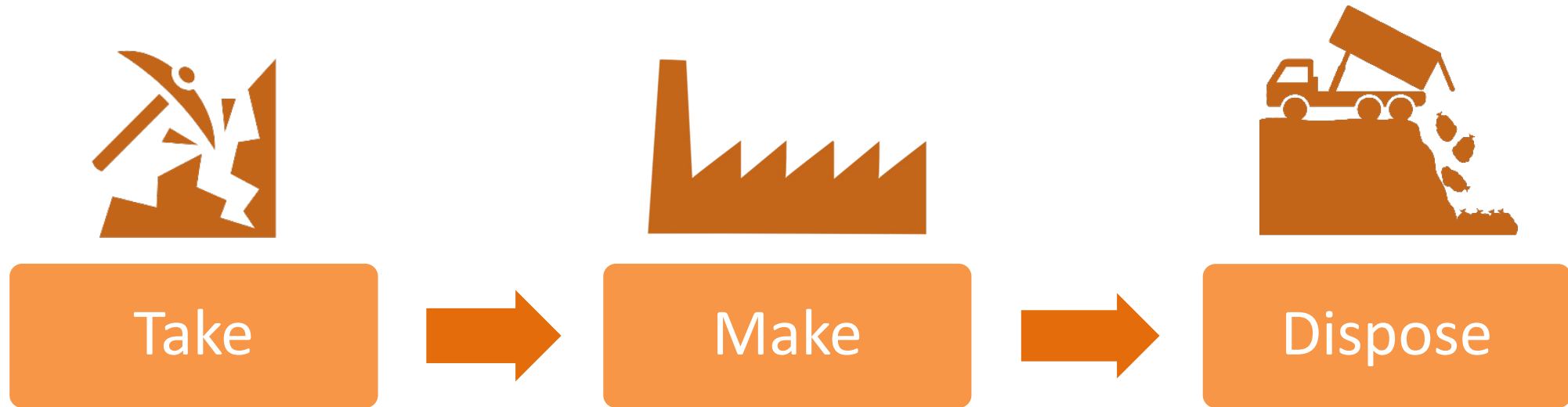




**2 hours**



# Transition from a Linear Economy...



# ...Towards a Circular Economy





Careers that you may consider to  
help make a **difference**



## Re-thinking Progress: The Circular Economy



Ellen MacArthur Foundation

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 2,222  30

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If you enjoy architecture...



Design Waste-Free Buildings



# If you enjoy fixing things & solving problems...



**Engineer New Systems & Goods**

# If you enjoy communications & teaching....



**Educate about Environmental Topics**

# If you like business...



**Create or Join a Sustainable Business**



**Thank you! Questions?**