



Reduce, Reuse, Recycle

Lesson Plan: NRES G1-1

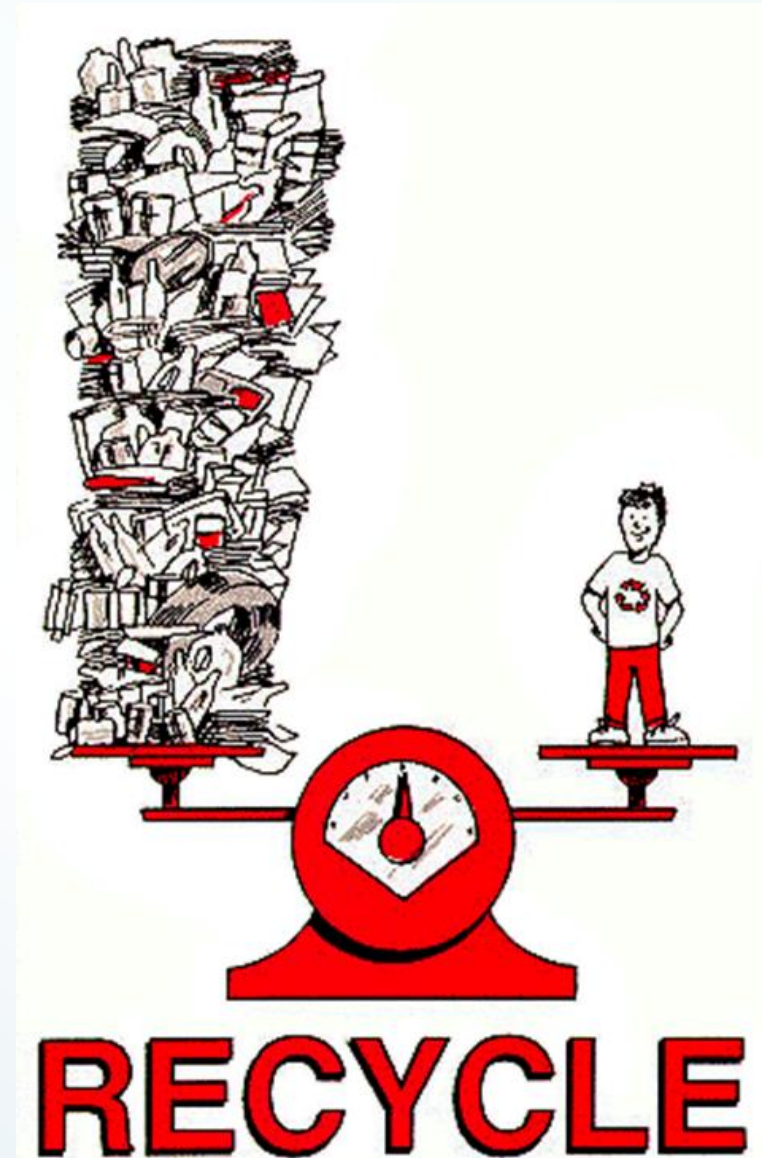


Anticipated Problems

1. What do reduce, reuse, and recycle mean?
2. Why is reducing, reusing, and recycling important?

Terms

- recycling
- reducing
- reusing





Reducing

- ***Reducing*** is the process of using only what is needed so there is no waste.
 - Reduce the amount of waste created by purchasing what is needed and by avoiding pointless purchases.

Reducing

- Some items that can be reduced are
 - ☐ Packaging
 - ☐ Paper
 - ☐ Food waste
 - ☐ Containers
 - ☐ Water
 - ☐ Energy





How Long Before Your Trash Goes Away?

- Banana peel: three to four weeks
- Paper bag: one month
- Cardboard: two months
- Wool sock: one year
- Tinned steel can: 50 years
- Aluminum can: 200 to 500 years



How Long Before Your Trash Goes Away?

- Disposable diapers: 550 years
- Plastic bags: 20 to 1,000 years
- Plastic jug: 1 million years
- Glass: 1 to 2 million years
- Plastic foam: 1+ million years



Reusing

- ***Reusing*** is the process of finding alternative uses for items after they have fulfilled their primary use.
 - Before an item is recycled or disposed of, it is important to consider whether it has other uses.
 - Reusing items lessens the need to use new resources to make new products.
 - Delays the entry of old resources into the waste stream



Reusing

- An empty food jar can be used to store leftovers.
- Food scraps can become compost.
- Old clothes can be reused as rags.
- Opened envelopes used to jot down notes or lists.
- Magazines can be shared.
- Cars can be resold.
- Cell phones can be donated.

Recycling

- ***Recycling*** is the process of creating completely new items from old, or no longer desirable, items.
 - Collecting recyclable materials that would otherwise be considered waste
 - Sorting the materials (e.g., fibers, plastic, and glass)
 - Processing the recyclables into new products



PLASTIC BAGS BY THE NUMBERS

- ◆ 4 to 5 trillion plastic bags are manufactured each year.
- ◆ Americans use more than 380 billion polyethylene bags per year.
- ◆ Americans throw away approximately 100 billion polyethylene bags per year.
- ◆ It takes 1,000 years for polyethylene bags to break down.
- ◆ As polyethylene breaks down, toxic substances leach into the soil and enter the food chain.
- ◆ Approximately 1 billion seabirds and mammals die per year by ingesting plastic bags.



Sea turtles and lionfish are shown swimming through a sea full of plastic bags and trash.



Rebuying

- Rebuying is sometimes considered the fourth “R.”
 - To complete the cycle, the recycled products must be purchased.
 - If recycled products are not bought, the purpose of recycling is defeated.
 - Many materials can be recycled.

Recycling

- Aluminum is recyclable.
- Most paper products can be recycled.
- Most glass can be recycled.
- Plastic needs to be recycled (takes 500 years to break down)
- Metals can be remanufactured
- Lubricating oils collected and recycled
- Electronic devices: metals and plastic recycled



Prioritizing

- Reduce, reuse, and recycle are placed in order of importance, with reduce being the most important action.





Reduce

- By not creating waste in the first place, disposal is less of an issue.

Reuse

- After reducing the use of unnecessary items, people can be creative about reusing items to keep them out of landfills and to reduce the number of new items that must be produced.





Recycle

- Recycling is the third and final “R” because it requires the use of energy and water.
 - Recycled material must be transported to a processing facility where it is sorted by machines.
 - Materials must be processed
 - Transported again
 - Requires energy, resources, and money

Importance

- According to the U.S. Environmental Protection Agency, the average American produces about 4.6 pounds of garbage per day.
 - Typically put into a plastic bag and sent to a landfill.





Importance

- Significant reductions can be made in the waste stream by reducing, reusing, and recycling.
 - Environmental and economic benefits exist for reducing the waste stream.



Reduction in Materials

- Reduction in the use of materials and the reuse of items:
 - Less use of natural resources
 - Less hazardous materials in the environment
 - Economic savings



Waste is Created

- Waste is created when consumers throw away items. It is also created throughout the life cycle of a product. Waste occurs:
 - With the extraction of raw materials
 - Transporting the materials to processing and manufacturing facilities
 - During the manufacturing process

Reducing Materials

- Reducing the amount of material needed for products decreases waste. Decreases in waste are also realized later
 - When products are recycled
 - Combusted for energy
 - Disposed of in a landfill





Choosing Nonhazardous

- Choosing items deemed nonhazardous or less hazardous is another factor related to reduction.
 - Can reduce potential environmental pollution
 - Reduce waste toxicity



Cuts Costs

- A reduction in the amount of waste cuts costs related to disposal.
 - Reducing costs provides economic savings for communities, businesses, organizations, and individual consumers.

Recycling Benefits

- Among other things, recycling conserves natural resources, reduces pollution, saves energy, saves money, saves landfill space, and creates recycling jobs.





Recycling Benefits

- Conserves natural resources
- Limits negative impacts on the environment
- Reduces the amount of pollution
- Decreases the emissions of greenhouse gases
- Protects and expands US jobs
- Saves energy
- Saves money
- Saves landfill space



Review

- Name five items that we can reduce, some of which is through pointless purchasing.
- According to the EPA, how much garbage does the average American produce per day?
- Why should recycling be our last option after reducing and reusing?