

Talking Trash in Tucson

Teacher Background Information

A World of Waste

What is solid waste? What is solid waste? Also referred to as trash, rubbish, refuse, or garbage, solid waste means waste material that is not liquid or gas. These lessons focus on municipal solid waste (MSW), which includes household, commercial and institutional waste, but not wastes from mining, agriculture, silviculture, demolition debris, and a variety of sludges. The term “waste” has interesting connotations. It can refer to something leftover or something not used wisely. Much that is considered waste could actually be used wisely.

Solid waste is a serious issue in the United States. The U.S. leads the world in the production of municipal solid waste. Even compared to other wealthy industrialized nations such as Japan or countries in Europe, we generate twice as much solid waste per capita. The average American produces

about 4.5 pounds of garbage each day!

In 1960, that figure was 2.6 pounds.

Every year in the United States, we generate 250 million tons of garbage. That’s enough trash to cover the state of Arizona 5 times! At Tucson’s Los Reales landfill, more than 1,500 tons of garbage arrive every day, much of it recyclable.

Although recycling grew steadily for many years, markets have dropped over the past few years because of changes in policies in China and other countries importing materials to recycle. The state-of-the-art Materials Recovery Facility (MRF) in Tucson allows us to recycle a wide variety of material, but changes may occur in the city’s recycling

program as the world markets continue to fluctuate.

Recycling is much more than an alternate means of waste disposal. Recycling is about conserving natural resources, reducing our use of energy and materials, minimizing pollution, and more.

What are the “Three Rs”?

In a waste reduction context, the “Three Rs” refer to reduce, reuse, and recycle. These are the three most basic, important ways to reduce waste, conserve natural resources, and decrease our impacts on the natural world. Reducing, reusing, and recycling often save money, too.

It is important to recognize that the order cited—reduce, reuse, recycle—is *not* arbitrary. Some people tend to think of recycling as a central focus and of reducing and reusing as less important, but this is not a correct understanding.

Reducing is actually the most efficient way to conserve resources. Reusing is second

in efficiency. Recycling is important but is not as efficient as reducing and reusing. Recycling of course involves a cycle. For recycling to be successful, we need to complete the cycle, or “close the loop,” by buying recycled goods. Although confusing, it’s important to learn to distinguish between the “made from recycled” symbol, which is a trio of light chasing arrows on a dark circle background, from the “recyclable” symbol, which is a simple trio of chasing arrows, with no dark background. A “made from recycled” product is actually made from materials that have been used before.



The Three Rs

REDUCE

To buy or use fewer items or to throw away less trash.

- Prevent waste; buy only what you really need.
- Purchase products you use regularly in large packages.
- Purchase products in less packaging.
- Purchase concentrates and bulk goods.
- Buy products in refillable packaging.
- Borrow, loan, rent, lease, or share when possible (books, tools, etc.).
- Use both sides of paper.
- Take action to get your name deleted from mailing lists.
- Repair instead of replace something broken or worn.
- Buy good quality, durable products fabricated so that they can be repaired.
- Take good care of your things so that they last.



REUSE

To save something and use it over again for the same purpose or another purpose.

- Choose reusable rather than disposable goods (napkins, mugs, razors, sponges, etc.).
- Purchase used goods (furniture, books, music, toys, clothes, etc.).
- Sell or give away goods you no longer want or need.
- Use the back of old paper as scratch paper.
- Use glass jars, plastic tubs, water bottles, lunch bags, etc. again and again.
- Use leftover materials to make something different (scrap lumber to build a bat house or dollhouse).

RECYCLE

To make something used into something new.

- Recycle as much as possible through community collection programs, either curbside or at drop-off locations.
- Adjust your purchasing habits to buy items in packages that are recyclable in your area.
- Keep an eye out for special recycling programs, such as opportunities to recycle copier or computer printer cartridges through an office supply store and Christmas tree collection programs.
- Remember to buy recycled! Look for products and packaging with recycled content.
- Help “nature’s recycling” by composting kitchen and yard waste.

The success of the *Do More Blue* program depends on two factors:

- Quality of the recycled materials, and
- Efficiency of the collection.

It is the responsibility of each homeowner to follow these recommendations which allow for the best separation and eventual use of the recycled materials.

Unacceptable Materials:

- Plastic bags
- Grass
- Yard waste
- Styrofoam
- Food waste
- Diapers
- Clothing
- Aluminum foil
- Hazardous waste

Glass food and beverage containers can no longer go in your recycling bin.

Glass is now collected in large purple containers at drop-off sites across Tucson, so that it can be reused.

Guidelines for Blue Barrel Recycling

- Materials should be clean, empty, and dry, with no food or beverage residue.
- Set out your Blue Barrel for collection when it is more than half full to decrease fuel consumption and air pollution.
- Have barrel at curb by 6 a.m. to ensure service.
- Leave labels on containers.
- Caps and lids on plastic bottles and jars can be recycled, but leave them attached.
- Lightly rinse food containers. Use water wisely - throw very dirty items into the garbage.
- All recyclables go loose into the Blue Barrel, together - no sorting! Please put them in individually, not inside a box or bag.
- Do not flatten cans and bottles to ensure sorting equipment works properly.
- Cut or flatten corrugated cardboard boxes to fit in container. Remove plastic wrapping and liners.
- Shredded paper may be recycled in the Blue Barrel if it is secured in a clear plastic bag. *(NOTE: This is the only time that plastic bags can go in the recycling container.)*



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Vocabulary

(Note: Use this vocabulary list as appropriate for your grade level students.)

Blue Barrel: The plastic container used for curbside recycling in the *Do More Blue* program.

Close the Loop: To create a continuous cycle for a product from production, to purchasing, to consumption, to recycling, to ultimately returning to production.

Compost: The process of collecting organic waste, such as food scraps and yard trimmings, and storing it under conditions designed to help it decompose naturally. This resulting compost can then be used as a natural fertilizer.

Decomposition: Process by which a substance is broken down into component parts or basic elements under the proper conditions of light, air, and moisture.

Downcycle: To convert waste materials into new materials or products of lesser quality. For example, white notebook paper is often downcycled into cardboard.

Environmental and General Services: Provides garbage and recycling services for the City of Tucson. Blue Barrels are provided for city residents for co-mingled, curbside recycling; in addition, large blue containers are available for recycling at businesses and Neighborhood Recycling Centers. For more information go to tucsonaz.gov/environmental-services or call (520) 791-5000.

Landfill: A carefully designed structure built into the ground in which trash is isolated from the environment; a plastic liner is used to prevent groundwater pollution, and the trash is periodically covered with sand or similar material and compacted.

Los Reales Landfill: The landfill for the residents and businesses of Tucson and Pima County. Each day approximately 1,500 tons of solid waste is brought to the 350-acre landfill, located at 5300 E. Los Reales Road (between Swan and Craycroft Roads). For more information go to <http://cms3.tucsonaz.gov/es/los-reales-landfill>.

Materials Recovery Facility: A Materials Recovery Facility (MRF), pronounced “murf,” is the facility where recyclable materials are taken to be separated and prepared to be made into new products. The city of Tucson’s MRF is located at 3780 E. Ajo Way (near the intersection with Alvernon Way).

Natural Resources: Raw materials and energy from nature: land, water, sunshine, and minerals. Everything comes from natural resources.

Neighborhood Recycling Center: Even if you don’t have a Blue Barrel, you can recycle at one of the Neighborhood Recycling Centers located throughout Tucson. Locations can be found at <http://cms3.tucsonaz.gov/es/neighborhood-recycling-centers>.

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Vocabulary

(continued)

Non-renewable natural resources: Materials that are considered finite in amount (e.g., petroleum, coal, copper), or exhaustible because of their scarcity, the great length of time required for their formation, or their rapid depletion. Examples include petroleum, coal, and copper.

Recycle: The process of collecting, sorting, processing, and using already manufactured materials (such as paper, glass, plastic and metals) for remanufacturing of new products thus reducing the amount of new raw materials needed.

Recycled material: Material that has already been recycled and remanufactured into new products.

Recyclable material: Material that can be recycled and remanufactured into new products.

Reduce: The process of decreasing the amount of waste generated.

Renewable natural resources: Materials that can be renewed, restored, or regenerated by natural ecological cycles or sound management practices. Examples include plants, animals and sunlight.

Reuse: The process of using an object more than once in its same form for the same purpose or for different purposes to extend the life of the object.

Single Stream Recycling: Recyclables that are collected mixed together, rather than separate from one another. In Tucson, all recyclable materials are placed together in the Blue Barrel, then sorted at the MRF.

Solid waste management: The collection, transport, processing or disposal and monitoring of waste materials.

Source or waste reduction: The design, manufacture, purchase, or use of materials to reduce the amount or toxicity of materials before they enter the waste stream. Source reduction includes redesigning products or packaging, reusing products and packaging already manufactured, and lengthening the life of products to postpone disposal.

Three Rs (3Rs): Reduce, Reuse, Recycle (add in Refuse and Rethink for the Responsible Rs!)

Upcycle: To convert waste materials into new materials or products of better quality. For example, foil juice pouches can be upcycled to make handbags and backpacks.

Waste Diversion: The process of diverting waste from landfills. The waste may be recycled (for example, bringing plastic bags back to the grocery store), composted, or repurposed (for example, using candy wrappers and juice pouches to make bags).

Waste Stream: The total flow of solid waste from homes, businesses, institutions, and manufacturing plants to final disposal.