NO PREP

Reducing Waste at Home

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Includes: Student reading, case study, differentiated questions, teacher key

Name: Period: Date:

Reducing Waste at Home

Waste Is Money You Already Spent

Resource management is the skill of using what you have to meet your goals, and waste is simply the failure of that skill. Every wasted item in a household was purchased with money that has already left, which makes waste different from every other budget problem. A high price is a decision about the future and can be avoided next time. Waste is a loss already taken. The Environmental Protection Agency has estimated that Americans generate roughly five pounds of municipal solid waste per person per day, and a large share of it was useful when it entered the house. Food has been the largest single category in landfills, with estimates of roughly thirty percent of the household food supply going uneaten. Clothing was identified as the fastest-

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Buying Less and Buying Better

Reduction starts before the purchase, which is why it belongs in a consumer skills course rather than a science one. Buying only what will be used sounds trivial and is the largest single lever available, because unused purchases are pure loss. Choosing durability over disposability is close behind. A twenty dollar item that lasts a decade beats a four dollar item replaced every year, and the comparison only becomes visible if you calculate cost per use rather than cost per purchase. Reusable versions

of disposable products, including water bottles, food containers, cloth napkins, and shopping bags, pay for themselves at a predictable point that is easy to calculate. Packaging is worth attention as well, since concentrated products, refill pouches, and bulk bins reduce both cost and volume. Planned obsolescence complicates all of this. Some products are deliberately designed for a short service life, with sealed batteries, proprietary screws, glued assemblies, or software updates that slow older devices. A growing right-to-repair movement has produced laws in several states requiring manufacturers to make parts, tools, and repair documentation available to owners and independent shops. As a consumer the practical response is to check repairability before buying anything expensive, since a device with available parts and a replaceable battery may last three times as long as a sealed competitor at the same price. Buying used converts someone else's disposal into your acquisition at a fraction of the price, and for furniture, tools, textbooks, and children's clothing it is frequently the obviously correct choice.

Getting a Second Life Out of What You Own

Reuse is where household skill turns directly into money, and it is the strand of consumer science with the deepest roots in home economics. Basic repair pays immediately. Sewing a button, patching a seam, replacing a zipper, tightening a chair, unclogging a drain, or swapping a phone battery each costs a few dollars and a short amount of time against replacement prices many times higher. Those skills have thinned out over two generations, which is precisely why they are valuable again now. Maintenance is the invisible half of reuse and generates a larger return than repair, because it prevents the failure entirely. Cleaning a dryer's lint trap and vent improves efficiency and prevents fires. Changing filters on furnaces and vacuums extends equipment life. Washing clothes in cold water on shorter cycles and air drying when possible reduces both utility costs and fabric wear, since the lint in a dryer is the garment slowly disappearing. Rotating and properly storing seasonal items prevents the damage that quietly retires them. Beyond repair sits repurposing, which finds a second function for something that has failed its first, such as glass jars becoming storage or worn towels becoming cleaning rags. When a household genuinely cannot use an item, giving it away through donation, resale, or a local exchange group keeps it in service somewhere else, which is a better outcome than a landfill and often a tax deduction or a small return.

Recycling, Composting, and Doing It Correctly

Recycling is the last step of the hierarchy and it works considerably better when it is done accurately. Wishcycling, the habit of placing questionable items in the bin hoping they qualify, is a real problem rather than a harmless one. Contaminated loads can be rejected entirely at the sorting facility, meaning a single greasy pizza box or a bag of unwashed containers can send an entire batch to the landfill. Rules are local and genuinely vary, so the authority is your own municipal or hauler guidance rather than the symbol printed on the package. The chasing-arrows triangle with a number identifies the plastic resin type and does not promise that your program accepts it, which is one of the most widely misunderstood labels in American consumer life. Common errors include plastic bags in curbside bins, where they tangle sorting machinery, along with unrinsed containers, small items that fall through screens, and paper contaminated by food. Composting handles the organic fraction and is the direct answer to the food waste problem, converting scraps into soil rather than landfill methane, and it can be done in a backyard bin, a countertop system, or through a growing number of municipal collection programs. Electronic waste requires separate handling because devices contain both hazardous materials and recoverable metals, and most retailers that sell electronics accept them back. Household hazardous waste, including paint, batteries, motor oil, and compact fluorescent bulbs, must go to designated collection sites rather than the trash.

The Utilities Nobody Watches

Energy and water are resources purchased continuously and consumed invisibly, which is why they leak money in a way groceries never could. Heating and cooling dominate a typical household energy bill, so the highest-return actions are unglamorous: sealing air leaks around doors and windows, adding insulation, and adjusting the thermostat by a few degrees, which produces measurable savings for each degree over a season. A programmable thermostat automates that discipline. Lighting has become an easy win, since LED bulbs use roughly a fifth of the electricity of incandescent bulbs and last many times longer, making replacement worthwhile even before the old bulb fails. Phantom load, the electricity drawn by devices that are switched off but still plugged in, accounts for a small but constant share of a bill and is eliminated with a power strip. When appliances are replaced, the Energy Star label identifies models meeting federal efficiency standards, and

the yellow EnergyGuide label estimates annual operating cost, which allows a true comparison between a cheaper machine that costs more to run and an expensive one that costs less. Water follows the same pattern. A running toilet can waste enormous volumes silently, a dripping faucet adds up over a month, and low-flow fixtures reduce use without a noticeable difference. Full loads in dishwashers and washing machines use less water per item than partial ones. The theme running through all of it is that resource management rewards attention rather than sacrifice, and the money it returns is money the household never had to earn.

Key Information: Household Resource Management

Detail	Information
The Hierarchy	Reduce, then reuse, then recycle; the order is a ranking
Largest Landfill Share	Food waste; an estimated 30% of the household food supply goes uneaten
Planned Obsolescence	Products designed for short life; sealed batteries, glued assemblies
Right to Repair	State laws requiring parts, tools, and repair documentation
Wishcycling	Bin-filling on hope; contamination can send a whole load to landfill
Resin Code	The number in the triangle identifies plastic type, not acceptance
Phantom Load	Power drawn by devices switched off but still plugged in
EnergyGuide	Yellow label estimating an appliance's annual operating cost

Case Study: The Okafor Household Audit

The Okafor family's electric bill has climbed for four straight months and nobody can explain it. Their daughter Ngozi is taking a consumer science class and offers to run a household audit as her project. Over one week she records what she finds. The back door has a visible gap of daylight along the bottom. Eleven incandescent bulbs are still in service. The thermostat is set to seventy-four degrees and nobody remembers choosing that number. Two gaming consoles, a printer, and a coffee maker stay plugged in continuously. She also finds that the dryer vent is packed with lint and the upstairs toilet has been running quietly for weeks. Her father assumes fixing all of this means buying a new furnace they cannot afford. Ngozi tells him the furnace is not on her list at all, and hands him a page where every item costs under thirty dollars. At the bottom she has written: none of this is sacrifice, it is just attention.

1. Choose three of Ngozi's findings and explain, using the reading, how each one wastes money and what the fix accomplishes.

2. Ngozi's father assumes the solution is an expensive appliance. Explain why the reading supports her claim that the highest-return actions are the cheap ones.

Multiple Choice

1. Why does reduce come before recycle in the waste hierarchy?

    a) Recycled goods cost more than new ones to produce

    b) Reduction is required by federal environmental law

    c) Recycling programs reject most household materials sent to them

    d) The cheapest resource is the one never purchased at all

2. What does the number inside the recycling triangle on a plastic container tell you?

a) Which resin the plastic is made from

b) How many times the plastic has been recycled

c) That your local program accepts the item

d) The percentage of recycled content inside

3. What is phantom load as the reading defines it?

a) Extra charges added to a utility bill in peak season

b) Heat lost through gaps around doors and windows

c) Water wasted by a toilet that runs silently and constantly

d) Power used by devices turned off but still plugged in

Matching

Write the letter of the correct definition on the line next to each term.

Term	Definition
1. ___ planned obsolescence	A) Putting questionable items in a recycling bin and hoping they qualify
2. ___ wishcycling	B) Designing a product for a short service life so it is replaced sooner
3. ___ phantom load	C) The yellow label estimating an appliance's yearly operating cost
4. ___ repurposing	D) Electricity drawn by devices that are off but remain plugged in
5. ___ EnergyGuide	E) Finding a new function for an item that has failed its original one

Fill-in-the-Blank

1. Power drawn by devices that are off is _____ load.

2. Hoping questionable items qualify for recycling is _____.

3. The first and cheapest step of the waste hierarchy is to _____.

Short Answer

Answer each question in 2-4 complete sentences.

1. Explain why the reading calls waste a different kind of budget problem than a high price.

_____

_____

_____

2. Why can putting one greasy pizza box in a recycling bin cause more harm than throwing it away?

_____

_____

_____

3. Explain how checking repairability before a purchase can save money over a product's life.

_____

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