

## Class 8

# Preventing Food Waste

## Objectives

1. Understand why Clark County is prioritizing food waste prevention
2. Learn what is food waste and its impacts on our economy, society and environment
3. Take action as an individual and public engagement

### Terms Defined in this Chapter:

Food Waste vs. Wasted Food

Food Recovery Hierarchy

*Note: Links and resources listed in this chapter are those recommended based on the opinions of staff, volunteers and others, and are not endorsements of products, apps, etc. Effort was made to include the most reliable sources and recommendations from leading experts.*

## Food Waste Prevention in Clark County ([Department of Ecology](#))

Food is a valuable resource, and has social, environmental, and economic value. Edible and inedible food reaches landfills more than any other single material. With one in six Washingtonians being food insecure and approximately 65,000 Clark County individuals, it is important to prevent and reduce food waste in the first place.

In April 2019, the Washington Legislature passed the Food Waste Reduction Act which tasks the state and its stakeholders to create a food waste prevention plan by October 1, 2020. This plan will recommend actions to achieve a 50% reduction in food waste in Washington by 2030.

### **What does 50 percent food waste reduction look like?**

Greenhouse gas emissions reduction by more than 1.6 million metric tons of carbon dioxide.

This equates to nearly 345,000 passenger vehicles taken off Washington's roads and more than 184,000 gallons of gas that's never burned.

Clark County has spearheaded this effort by joining Washington. Over the next year, the green programs, Green Business, Green Schools, Master Composter Recyclers and Green Neighbors, will target their specific audiences. Based on our findings, the biggest financial and environmental opportunity is preventing food waste before it occurs, and this will begin with supporting businesses. In addition, the Green Neighbors and Master Recycler Composters programs will disseminate food waste prevention strategies to county residents, and suggest composting as a second priority.

The City of Vancouver began their organics program in fall of 2019 that allows food items to be accepted along with their yard debris. The county does not have immediate plans to expand the

yard debris program to include food scraps accepted at the curb due to insufficient capacity at our transfer stations.

### **Why is Sustainable Management of Food Important?**

Wasted food is a growing problem in our modern society and an untapped opportunity. In 2017 alone, almost 41 million tons of food waste was generated, with only 6.3 percent diverted from landfills and incinerators for composting. EPA estimates that more food reaches landfills and incinerators than any other single material in our everyday trash, constituting 22 percent of discarded municipal solid waste. Additionally, the [U.S. Department of Agriculture \(USDA\)](#) estimates that in 2010, 31 percent or 133 billion pounds of the 430 billion pounds of food produced was not available for human consumption at the retail and consumer levels (i.e., one-third of the food available was not eaten).

The Food and Agriculture Organization of the United Nations (FAO) estimated in 2011 that approximately one-third of all food produced for human consumption worldwide is lost or wasted. Taking simple steps in your everyday life can make a difference in addressing this issue. Reducing wasted food is a triple win; it's good for the economy, for communities, and for the environment.

### **What is Food Waste and Where Does it Come From? ([EPA](#))**

The term “wasted food” describes food that was not used for its intended purpose and is managed in a variety of ways, such as donation to feed people, creation of animal feed, composting, anaerobic digestion or sending to landfills or combustion facilities. Examples include unsold food from retail stores; plate waste, uneaten prepared food, or kitchen trimmings from restaurants, cafeterias, and households; or by-products from food and beverage processing facilities. EPA uses the overarching term “wasted food” instead of “food waste” for food that was not used for its intended purpose because it conveys that a valuable resource is being wasted, whereas “food waste” implies that the food no longer has value and needs to be managed as waste.

- **Excess food** refers to food that is recovered and donated to feed people
- **Food waste** includes plate waste (i.e. food that has been served but not eaten), spoiled food or peels and rinds considered inedible that is sent to feed animals, to be composted or anaerobically digested or to be landfilled or combusted with energy recovery
- **Food loss** refers to unused product from the agricultural sector, such as unharvested crops

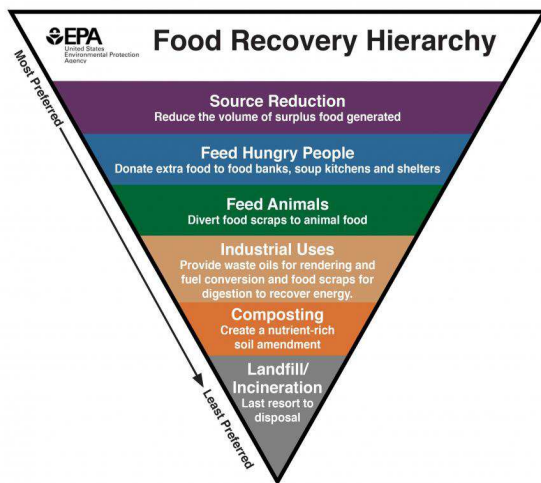
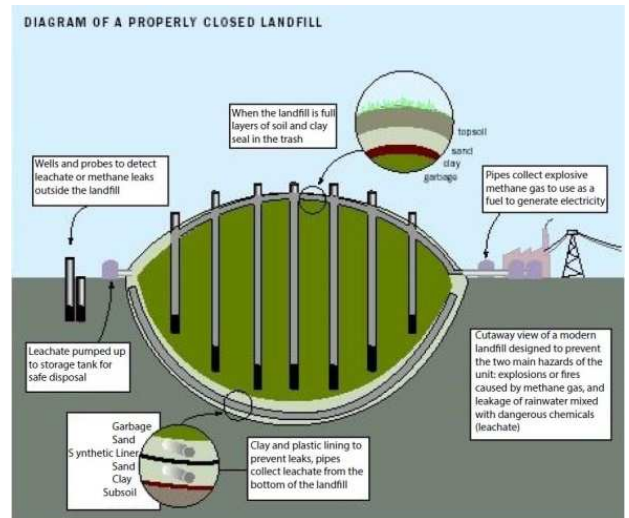
### **What Happens to Food that is Sent to the Landfill?**

It's common knowledge that composting is good waste diversion, but what is the difference between composting and simply throwing food scraps away? When municipal solid waste such as food scraps is first deposited in a landfill, it undergoes an aerobic (with oxygen) decomposition stage when little methane is generated. Then, typically within less than 1 year, anaerobic conditions are established and methane-producing bacteria begin to decompose the

waste and generate methane. Composted food generates carbon dioxide, fertilizer for new plants and a happy place for worms. Most landfills are what are called “dry tombs,” because they let very little oxygen that in results in a decrease in decomposition.

### Food Recovery Hierarchy

EPA encourages anyone managing wasted food to reference the [Food Recovery Hierarchy](#). When the higher levels of the hierarchy are no longer feasible, then the food waste left over should be put to beneficial use such as [composted](#) or sent to be broken down through [anaerobic digestion](#). Additional resources on wasted food can be found at [Further with Food: Center for Food Loss and Waste Solutions](#).



The Food Recovery Hierarchy prioritizes actions organizations can take to prevent and divert wasted food. Each tier of the Food Recovery Hierarchy focuses on different management strategies for your wasted food.

The top levels of the hierarchy are the best ways to prevent and divert wasted food because they create the most benefits for the environment, society and the economy.

### Conserving Resources

Reducing wasted food does great things for the environment:

- **Reduce Methane from Landfills** - When food goes to the landfill, it’s similar to tying food in a plastic bag. The nutrients in the food never return to the soil. The wasted food sometimes rots and produces methane gas.
- **Save Resources** – Wasted food wastes the water, gasoline, energy, labor, pesticides, land and fertilizers used to make the food. When we throw food in the trash, we’re throwing away much more than food.
- **Return Nutrients to the Soil** – If you can’t prevent, reduce or donate wasted food, you can compost. By recycling food scraps in the City of Vancouver or backyard composting at home, you’re helping make healthy soils. Properly composted organics (wasted food and yard debris) improve soil health and structure, improve water retention, support more native plants and reduce the need for fertilizers and pesticides.

## As individuals, what can we do about food waste?

Most food waste in developed countries occurs at the consumer level, and it occurs at every phase of a consumer's relationship with their food. This means that there are opportunities to reduce wasted food from decision-making at the store to food storage, to cooking.

### Meal planning

Meal planning may sound like something that people only do if they're on a diet, or feeding an army, but it is a useful tool that is proven to help families reduce their grocery bill and food waste. Efficient meal planning takes into consideration ingredients you already have on-hand and that can be used for multiple recipes, and complements your busy life instead of complicating it. Many

people find that once they get into the habit of meal planning, it reduces stress because they don't have to create meals at the last-minute, and they don't have to make multiple trips to the grocery store. Follow these simple steps to save food, time and money!

#### What is meal planning?

Meal planning is thinking about the days ahead (usually no more than a week at a time), considering your schedule and deciding what meals and snacks you should make and what you need to have on hand.

1. **Identify what food is wasted on a weekly basis:** Do you see a lot of fresh produce getting spoiled while it waits for its day on the plate, or do you see leftovers getting pushed to the back of the fridge only to emerge much later looking more like the Oscar the Grouch than the sandwich you put back there? Identifying what food is eaten and what is thrown away in your home can help guide you to be more realistic and resourceful when deciding what food you need.
2. **Keep an inventory of your pantry:** It can be hard to know exactly what is lurking on the many shelves of our pantry, but by inventorying your stock you can keep track of what you have and what you need. This way when you run to the grocery store you'll be less likely to buy items you already have.
3. **Practice FIFO (First In First Out):** If you have two or more of something, the first one you bought should be the first one you eat. Simple as that.
4. **Plan a "use it up" meal once a week:** Still have a handful of spinach, a quarter onion and a single tomato leftover from the meals you made during the week? Plan a meal before your next grocery run with your lonely ingredients. Easy "use it up" meal ideas include burritos, casseroles, pastas and stir fries.

### Additional Tips and Resources (adapted from [savethefood.com](http://savethefood.com)):

1. **Don't start from scratch:** Meal planning doesn't have to mean hours spent with a cookbook. Start with your go-to meals. Repeat them every week or two. Then try something new.
2. **Use portion planners:** Portion calculators, such as [The Guest-imator](#) can help you feed a big group, but they can offer insight into daily cooking too.
3. **Have kitchen essentials handy:** Having two or three grains, cooking fundamentals, key spices, and “hero” sauces like barbecue and peanut sauce can use up odds and ends in the fridge and bring new life to old meals.
4. **Use building blocks:** Pick two types of protein, one or two grains, and a veggie medley to make at the beginning of the week and then incorporate into different meals. A sauté of broccoli and peppers can be used as a side one night, spooned onto enchiladas another night, and worked into a soup or meatloaf later in the week.
5. **Think double duty:** Planning a Tuesday taco night? Think about other ways to use the extra tortillas. Ingredients sometimes come in larger portions than we need. If you plan a second meal around them, it's easier to avoid overload.
6. **Schedule a lazy night:** The truth is we don't always have the time or energy to cook every night. Plan a few lazy nights that don't require cooking and take the opportunity to order takeout or dine with friends.
7. **Go fresh first:** To preserve freshness and nutrition, use perishables like seafood and meat earlier in the week and save pasta, dairy and omelets for later in the week. Some greens like kale, will stay fresh longer than others.
8. **Lean on frozen ingredients:** Frozen foods have nearly all of the nutrients (and sometimes more) as their fresh counterparts. And they don't go bad.
9. **Cook and freeze:** Soups, stews, casseroles, and lasagnas can all be made in large batches and then frozen and defrosted when you need a quick dinner. To keep it easy, freeze the portion sizes you'll want to defrost.
10. **Using substitutions:** Learn how different ingredients can have a multi-purpose use. For example, if you're out of sour cream for “taco night” but have some plain yogurt, use that instead. Substitutions can also mean being creative; for example, on the very same “taco night” you run out of tortillas. Do you have lettuce? Turn it into “taco salad night!” There's also a handy [substitutions chart](#) available online.
11. **Websites to help use up food before it spoils:**
  - [Allrecipes Everyday Leftovers](#) – recipes for leftovers
  - [BigOven.com](#) – ingredient search for recipe ideas
  - [Google.com](#) – type in 2-3 ingredients with the word “recipe”
  - [Allrecipes Dinner Spinner](#) – Smartphone app for meal planning

## Shopping (adapted from [savethefood.com](http://savethefood.com))

The grocery store is where you commit – to spending both your money and the resources it took to grow the food – even if it doesn't get eaten. That's why careful shopping is the fastest, easiest way to cut food waste.

### Tips and resources:

1. **Make a list:** Shoppers who use and stick to lists have lower grocery bills and make fewer shopping trips. They're also less susceptible to impulse buys.
2. **Skip the cart:** Bigger dinner plates encourage us to eat more, and bigger carts call us to fill them. Baskets or mini-carts can help improve your grocery store discipline.
3. **Scrutinize deals:** Five bananas for \$1 is a good deal only if you will eat all five. Also, many stores offer the sale price even if you buy less than the stated quantity.
4. **Shop the bulk bins:** Many stores offer grains, nuts, spices and other dry goods in bulk bins that allow you to purchase only the quantity you need.
5. **Tap into the salad bar:** For recipes that call for small amounts of different vegetables, shop the salad bar. They will cost more per ounce, but less overall.
6. **Keep it cold:** Pick up perishable and frozen foods last at the store so they spend less time at room temperature. Also, shake the water from produce – water encourages rotting and adds weight. If you won't be home for a while, keep cold groceries in a cooler in your car.
7. **Support imperfection:** Scarred and oddly shaped fruits and vegetables are perfectly normal. If we don't buy them, the store will throw them away. You can also purchase "rescued" produce from services like [Imperfect Foods](#).
8. **Buy the last one:** People often avoid buying the last item on the shelf. Buying the last item on the shelf discourages stores from overstocking just to create the appearance of abundance.

### Food storage

A lot of food waste in the home is the result of improper storage. Knowing how best to store and preserve food can make a big dent in reducing the amount of food your family wastes.

Refrigerators are designed to keep foods at optimal freshness when used correctly. Even in the fridge, heat rises, so keep in mind that the most perishable items, like meat and fish, should be stored on the bottom shelf. Consider placing drinks, snacks, yogurt and items to eat soon in plain view on a top shelf. As the door is the warmest place, it's really only meant for condiments and nothing too perishable.

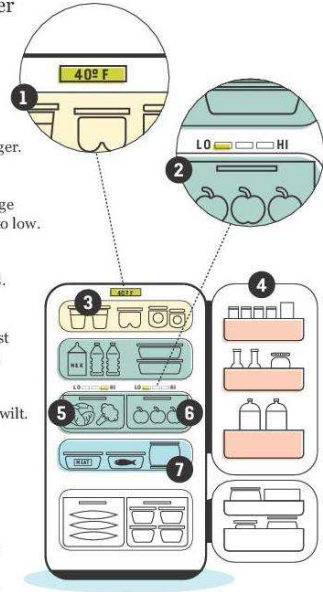
## Tips and resources:

- 1. Freeze, freeze, freeze:** Freezing food is like pushing the pause button and almost anything can be frozen – bread (best sliced), milk (shake when thawed), eggs (raw but scrambled) and cheese (shredded and used for cooking). And don't forget to freeze leftovers.
- 2. Food storage:** We all know things tend to hide both in our pantry and fridge, so do the best you can to organize, rotate, label and list contents to see as much as you can. Glass containers are great because they're stackable and can go from fridge to freezer to microwave.
- 3. Refrigeration:** To help food last longer, the goal is to stop microbe activity by decreasing moisture, warmth, time to grow or oxygen.
- 4. Produce storage guide:** Wasting less food is about keeping ingredients fresh and getting to know your food, how it ages and how it is best stored. [Savethefood.com/storage](http://Savethefood.com/storage) provides recommendations for proper storage.
- 5. Off-gassing:** Many fruits give off natural gases as they ripen, making other nearby produce spoil faster. Store bananas, apples and tomatoes by themselves, and store fruits and veggies in different bins.
- 6. Canning and dehydrating:** [WSU Clark County Master Food Preserver Program](http://WSU Clark County Master Food Preserver Program) offers resources and workshops on food preservation.

## THE REFRIGERATOR DEMYSTIFIED

40% of food in the U.S. is never eaten. Stocking your fridge with these tips will help your food stay fresh the longest.

- 1 TEMPERATURE**  
40°F or below to help food last longer.
- 2 HUMIDITY DRAWERS**  
The levers on crisper drawers change humidity. Set one to high and one to low.
- 3 THE UPPER SHELVES**  
Warmer. Store leftovers and drinks.
- 4 DOOR**  
Warmest! No milk or eggs here, best for butter, condiments, and drinks.
- 5 HIGH-HUMIDITY**  
Most veggies, especially those that wilt.
- 6 LOW-HUMIDITY**  
Fruits, along with veggies that may break down and rot.
- 7 LOWER SHELF**  
Meats and fish are better off at the bottom—it's usually the coldest and reduces risk of contamination.



For more tips, visit [SaveTheFood.com](http://SaveTheFood.com).

From Waste Free Kitchen Handbook by Dana Gunders, 2015. Used with permission from Chronicle Books, San Francisco.

SAVETHEFOOD.COM



## How to be better at using what you have

Saving food starts with your mindset. It's stopping for a moment in the grocery store, considering whether that tomato will actually get used this week. It's crafting dishes to use ingredients on hand. It's not being afraid to substitute pasta sauce or salsa for tomato paste. And it's eating breakfast for dinner, or dinner for breakfast — depending on what needs to be eaten soonest. It's a skill, as well as a passion. As it strengthens, you'll find yourself naturally resisting the urge to go out for a quick meal, because there's plenty of good food in the fridge just waiting to be cooked.

## Tips and resources:

1. **Using items past their peak:** [savethefood.com/recipes](http://savethefood.com/recipes) has recipes for using food that would typically be thrown away such as cheese rinds and potato skins. Categories include “past prime” and “scraps.”
2. **Wilted:** A quick soak in ice water for 5 to 10 minutes is often enough to reinvigorate wilted veggies. Bendy carrots will straighten right up, lettuce will crisp, and limp broccoli will find its strength again. And even if they can't be restored, some veggies you intended to eat raw — carrots, celery, and greens — can still shine in a cooked dish.
3. **Stale:** Toast stale chips and crackers for a minute or two in a regular or toaster oven to crisp them right back up. This works for bread, too — day-or-two-old bread turns into perfectly acceptable toast. And those crumbs and small bits at the bottom of a bag of chips or crackers add a lively crunch when sprinkled over salads.
4. **Salty:** Is your soup too salty? Add vinegar, lemon juice, or brown sugar to fix the problem — or dilute with water, crushed tomatoes or unsalted broth. You can also pop a raw, peeled potato into the pot of soup to absorb some of the salt. Remove the potato before serving (and combine it with another boiled potato to make a not-too-salty mash).
5. **Burned:** The timer broke, the phone rang, or you just got distracted. Whatever the reason, the next time you burn a dish, don't just toss it right away. You can remove burned beans or stew from the heat, scoop the unblackened portion into a new pot and cover with a damp cloth for 10 minutes. This removes much of the burned flavor. And, if the dish still tastes unappetizing, try adding barbecue, sweet chili, or hot sauce. (By the way, these sauces work wonders on recipes that turn out bland or weren't seasoned quite right.) Still inedible? Okay, you gave it your best, you may now order takeout.
6. **Overcooked:** When in doubt, puree. Overcooked vegetables and dishes that disappoint can always be transformed into soups or sauces. Just toss them in the blender with some soup stock, milk, or cream. Broccoli, carrots, cauliflower, potatoes and even leftover stir fry are excellent for this.
7. **Cooking basics:** Learn some basics about cooking so that you feel more confident straying from recipes to use what you have. Good resources include:
  - [Bon Appetit](#) – Cooking skills explained such as making a roux (thicken sauces and gravies), caramelizing, blanching vegetables (often involved in freezing and canning), etc.
  - [Ratio: The Simple Codes Behind the Craft of Everyday Cooking](#) This book delves into basic ratios and fundamental techniques instead of relying on recipes.



## When should you really “toss” something? (adapted from [savethefood.com](http://savethefood.com) and the [Washington State Department of Health](http://Washington State Department of Health))

Dates on packaging aren't regulated by the government (except for infant formula), or even by industries themselves. They're part marketing, part liability reduction – basically, most dates indicate the date before which a company will guarantee the product (“...or your money back!”) as long as it's been properly stored and handled! As a general rule, these dates are recommendations that refer to quality rather than safety:

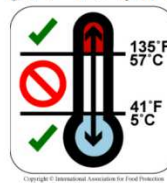
### The facts:

1. The FDA only regulates use by dates on infant formula
2. In Washington, producers are required to label food which will spoil within 30 days with a “sell by” date, after which they must be pulled from shelves.
3. Other than the above cases, manufacturers determine what dates and terms they print on their packaging. In general:
  - **Use by or best by:** Indicates when the manufacturer thinks the product will begin to deteriorate in quality. This does not necessarily mean the food will be spoiled after that date.
  - **Sell-by:** Aimed at retailers to know when they should remove a product from their shelves. Typically one-third of a product's shelf-life remains after the sell-by date for the consumer to use at home.
  - **Freeze by:** Indicates when a product should be frozen to maintain peak quality. It is not a purchase or safety date.
  - **Expires on or do not use after:** Products such as baby food, vitamins, over-the counter drugs, yeast, baking powder, cake mixes and pectin use these labels. Although these products may be safe if consumed after this date, their usefulness and quality may be reduced. Infant formula, baby food and over-the-counter drugs should never be consumed after the expiration date because they may not function in the body as expected.

The main criterion for evaluating food safety is the amount of time food spends in the “danger zone” temperature range of 40-135 degrees F. If you leave food on the counter or in a hot car, it could be unsafe even before the date on the package, regardless of what phrase you see. The Washington State Department of Health recommends that you don't allow perishable food to sit at room temperature for more than two hours. After two hours, refrigerate, reheat or “toss” it.

## Keep it Hot or Cold

**Bacteria may grow in potentially hazardous foods. Keep potentially hazardous foods out of the Danger Zone (41°F – 135°F) for safety.**



Potentially hazardous foods include:

- Meat, poultry, fish, seafood, eggs.
- Cooked starches (potatoes, rice, pasta).
- Dairy products.
- Soy products, such as tofu.
- Raw sprouts and cut melons.
- Cooked vegetables.
- Herbs and garlic mixed in oil.

Even if a product smells, tastes, or looks “off,” it could still be safe to eat. Food to be careful with are those recommended for pregnant women to avoid – deli meats and unpasteurized dairy products – and anything with mold. Most of the microbes that spoil food are harmless for humans. In fact, some favorite foods and beverages, like yogurt, cheese, and wine, are made using controlled spoilage.

Contamination, however, is due to a pathogen — a microbe that can make us sick. It’s due to poor handling — like allowing food to come into contact with raw chicken — rather than keeping food around for too long.

### **When you really do need to throw food away**

Composting is the fifth tier of EPA's Food Recovery Hierarchy. Even when all actions have been taken to use your wasted food, certain inedible parts will still remain and can be turned into compost to feed and nourish the soil. Like yard waste, food waste scraps can also be composted. Composting these wastes creates a product that can be used to help improve soils, grow the next generation of crops, and improve water quality. Nationally, the composting of food rose from 1.84 million tons in 2013 (5.0 percent of food) to 2.6 million tons (6.3 percent of food) in 2017. In 2017, Americans recovered over 67.0 million tons of MSW through recycling, and almost 27 million tons through composting. This is 1.13 pounds per person per day for recycling and 0.45 pounds per person per day for composting. Food composting curbside collection programs served 6.1 million households in 2017.

### **Additional food waste reduction and food safety online resources**

[Clark County Green Neighbors – Food: Too Good to Waste](#)

[US EPA: Reducing Wasted Food at Home](#)

[Food and Agriculture Organization of the United Nations – Food Loss and Food Waste](#)

[Washington State Department of Health: Food Safety in the Home](#)