Minimizing Food Waste at Home: Strategies and Solutions

NOURISH SMART

Hunger Solutions Institute
UtahStateUniversity.

Course Standards

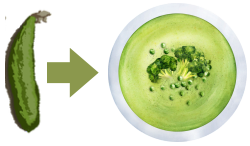
Standard ENVS.4.5
Design and defend a solution in the form of a sustainability plan to reduce individual, city, or regional contribution (causes) to environmental impacts. Define the problem, identify criteria and constraints, develop possible solutions using models, analyze data to make improvements from iteratively testing solutions, and optimize the solution. Emphasize how market forces and societal demands influence personal choices.

Rethinking Food

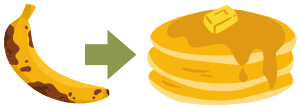
Using nearly spoiled food*

There are many foods that can be given a new life when you think it's time to toss them...

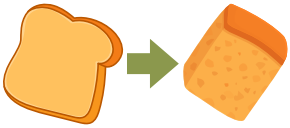
Vegetables can be used in soups, casseroles, stir frys, sauces, and broths.



Fruit can be used in baked goods, pancakes, and smoothies.



Stale bread can be used to make croutons or French toast.

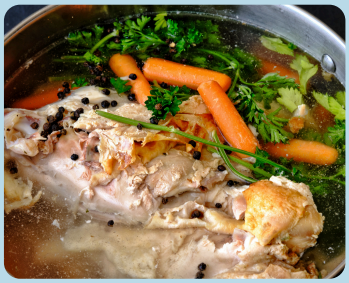


Sour milk used as a buttermilk substitute or used to make yogurt.

*Not moldy. Please check for mold before consuming.

1. Read the text in the blue box. After, introduce how different foods can be repurposed by reading the four examples provided. Emphasize that these foods need to not have mold on them because mold is not safe to consume.
2. Based on the list provided, ask the students if they have or would be interested in trying to make different things from food that is almost spoiled. Allow them to share their thoughts, if any.

Rethinking Food



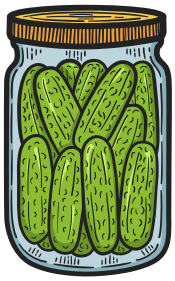
- Vegetable scraps can be turned into a vegetable broth.
- Have a chicken carcass or other bones on hand? Try making a stock.

Do you have a garden with abundant fruits or vegetables?

You can freeze, pickle, dehydrate, can, or make jam/jelly surplus produce. Learn more by scanning this QR code.

Do you have animals at your house or farm?

You can give food scraps to your animals as feed.



1. Read the text in the different boxes.
2. Ask the students if they have any experience using food in the ways described. Ask them to elaborate.
3. Considering this slide and the previous one, give the students 1-2 minutes to turn and talk with a neigbor about one thing they could implement in their lives to rethink their food and give it a new purpose.

Consider Composting

Composting is the controlled aerobic (oxygen-requiring) decomposition of organic materials by microorganisms. It is accomplished by mixing carbon-rich materials with nitrogen-rich materials, such as food scraps.

Food scraps are an excellent ingredient for creating a successful compost.

When used in the garden, compost returns nutrients to the soil, improving soil quality and supporting plant growth.

Definition from EPA
https://www.epa.gov/sustainable-management-food/composting

1. Read the text in the box. Explain that using food scraps in a compost pile can give them a purpose well past what we typically expect of our food.

Consider Composting

What can be composted at home?

- Fruit scraps
- Vegetable scraps
- Coffee grounds and paper filters
- Bread
- Cardboard and paper (uncoated, small pieces)
- Nuts and Nut Shells
- Plants
- Crushed eggshells
- Paper tea bags (without staples)

- Meat, fish, bones
- Cheese and dairy products
- Cooked food
- Produce stickers
- Fatty/Oily food products
- Glossy paper
- Plastic and styrofoam
- Animal waste
- Dryer lint
- Herbicide-treated plants and grass

Remember to Recycle

Plastics (check for this symbol on the bottom)

Milk cartons
Juice cartons
Aluminum cans

1. Review the list of the items that can and can't be composted. Explain that the list provided here regarding what can and cannot be composted does not encompass everything, but provides a general list of common items that do get composted or items that people try to compost that are not compostable.
2. Remind the students to also be mindful of the importance to recycle the items that they use when in the cafeteria. Express that the recycling numbers can vary, however, the most common numbers are 1 and 2.

Planning Food Sustainably

1 Check the kitchen

- See what food in your pantry, fridge, and freezer is available for use.
- Look for items that are close to or at expiration to eat first before buying more food.

2 Plan your meals for the week

- Plan out what meals will be eaten for the week.
- Try to plan meals where ingredients overlap so that all of the perishable goods are eaten.

3 Make a list for the store

- Using the meal plan you created, make a physical list of what and exactly how much you need to buy. This will help you not overpurchase groceries you likely do not need.

1. Read the three steps to planning food with food waste in mind.
2. Ask the students what foods tend to get thrown out frequently or sit in the kitchen for a very long time period. Allow a few students to share.
3. Ask the students to guess what foods are in the top 5 most thrown out foods.

Answer key:
1. Bread
2. Milk
3. Potatoes
4. Cheese
5. Apples

https://www.rivercottage.net/news/top-five-most-wasted-foods-and-ways-to-save-them-from-the-bin

Shopping for Food Sustainably

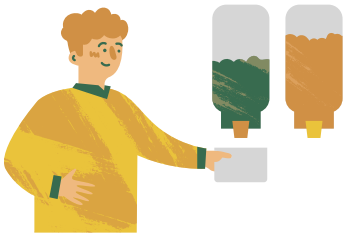
Keeping quantity in mind

When at the store, remember the following:

- Buying in bulk is only a good idea if you are going to eat all of the food before it expires.
- Only purchase what you need based on what you plan to make for meals.

Bulk bins

If you have a store near you that has bulk bins, consider purchasing from them to make sure you buy ingredients in the exact quantity that you need them.



Buy imperfect produce

Have you ever seen produce at the store with an odd shape? They have the same nutritional value as other produce but are thrown out often times.

1. Read the text in each of the three boxes.

Proper Food Storage

Storing Produce

Properly storing produce in the correct places in the fridge can affect how long they are good for:

- **Store most vegetables in the high humidity drawer.**
- **Store most fruit and vegetables that tend to rot in the low humidity drawer.**
- **Some fruits release ethylene gas and can ripen and speed up the process of spoiling of surrounding produce. Place bananas, apples, pears, avocados away from other produce.**
- **Not all vegetables are refrigerated. Store potatoes, eggplant, winter squash, onions, and garlic in a cool, dry, dark, and well-ventilated place.**
- **Avoid washing berries, cherries, and grapes until you are ready to eat them.**

Freezing Food

Did you buy or make too much? You can freeze many foods and eat them later.

Bread
Sliced Fruit
Meat
Leftovers

Make sure that you label and date the food you store in the freezer.

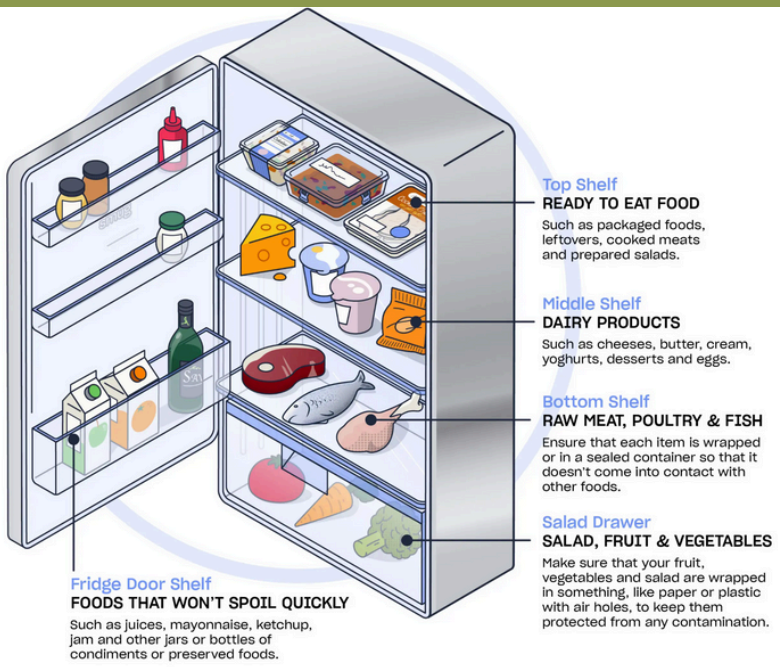
1. Read the points on the slide underneath the heading "Storing Produce".
2. Read the blue box about freezing foods.
3. Ask the students if they can think of anything else that could be frozen. Allow a few students to share their thoughts.

Proper Food Storage

Arranging Items in the Fridge

Refrigerators should be set to maintain a temperature of 40 °F or below.

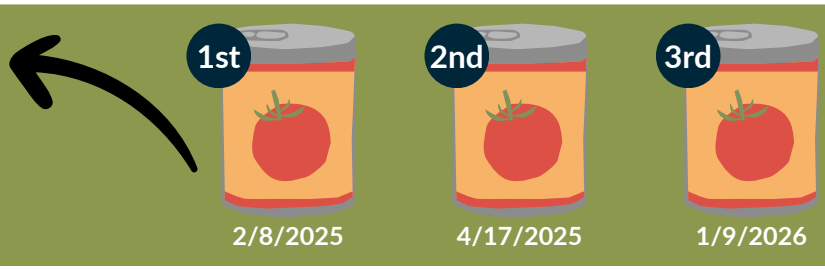
Be aware of where raw meat gets placed. Make sure it is wrapped and placed on the lowest possible shelf so that meat juices dont cross-contaminate other foods.



1. Review the diagram showing the best locations for foods in the fridge. Emphasize the importance placing meat on the bottom shelf to follow proper food safety techniques.

Proper Food Storage

First in, First Out



Leftovers

- **Refrigerate or freeze any leftovers in clear, labeled containers with dates.**
- **The risk of food poisoning from eating leftovers increases after 3-4 days of being in the fridge. Consider having a "leftovers" night during your week.**

Make sure that all containers (especially those with grain in them) are closed airtight.

Don't leave perishable food at room temperature for more than two hours.

1. Introduce the concept of first in, first out (FIFO) by explaining that it is a method to organize multiples of the same food product to ensure that the oldest one is consumed before the newer ones. As multiples of the same item get placed in the pantry, fridge, or freezer, keep them grouped together and place newly purchased items behind the already existing item(s). Use the graphic to help illustrate this concept.
2. Read the text about leftovers. Ask students how often their leftovers get thrown out typically.
3. Read the remaining two tips about containers and leaving food out.

Understanding Dates on Food

Best if Used By/Before — Indicates when a product will be of best flavor or quality. It is not a purchase or safety date.

Sell By — Tells the store how long to display the product for sale for inventory management. It is not a safety date.

Use By — The last date recommended for the use of the product while at peak quality. It is not a safety date except for when used on infant formula.

Freeze By — Indicates when a product should be frozen to maintain peak quality. It is not a purchase or safety date. Foods that are frozen indefinitely will always be safe to eat but the quality may decline with time.

So, how do I know when food has gone bad?

Spoiled foods will develop an off odor, flavor or texture due to naturally occurring spoilage bacteria. If a food has developed such spoilage characteristics, it should not be eaten.

https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/food-safety-basics/food- product-dating

1. Read the four common labels that are found on food products and the accompanying text beside them.
2. Emphasize that none of the dates have anything to do with the safety of the product. Food dating is a non-standardized, unregulated process and can often times cause confusion for consumers. Food manufacturers decide the dates that they do based on standards of quality, not s afety.
3. Read the following statistic:
"In the United States, 37% of American consumers always throw away food close to or past the date on its label, and 84% throw such food away at least occasionally".
Ask the students if these numbers are surprising. Why or why not?
4. Read the text in the blue box about identifying when food has gone bad.
5. Ask the following question: "Will you eat food that pass the "use by" date? Why or why not?" Allow a few students to share their thoughts.
6. Explain to the students that there are resources available to help people understand how long food truly does last before going bad. One of these resources is an app called "Food Keeper" that is free to download. This app has a large index of different foods and tips on how to store them for maximum freshness and quality. It also has a feature where you can add a food item onto your personal calendar and receive reminders to use it before it goes bad.

https://www.sjsu.edu/ccll/faculty/cel_module/foodwaste.php

Find a way to post the following links so that the class can have access to these resources for the activity. The first two links will aid the students in step 1 of the activity. The last link will be useful for step 2.

https://www.foodsafety.gov/keep-food-safe/foodkeeper-app

https://www.foodsafety.gov/food-safety-charts/cold-food-storage-charts

https://www.supercook.com/#/desktop

1. Split the class into four different groups and assign each group a number (1-4).
2. Read the instructions posted on the slide. Direct the students to where they can find the links they will need to complete this activity.
3. For step 2, encourage them to use the provided link, but also encourage them to use a search engine or even ChatGPT to come up with recipe ideas for their assigned ingredients.
4. Give the students about 5 minutes to complete their assigned section. Afterwards, allow the group to share what they found for both parts of the activity.

Additional note: The FoodKeeper website is also available as an app, so let students know that is available to them if they are interested.

Rethinking Food:

Getting the most from your food

Select a recipe that interests you and make it using ingredients in your house that are nearly spoiled

Croutons

Vegetable Stock

Banana Bread

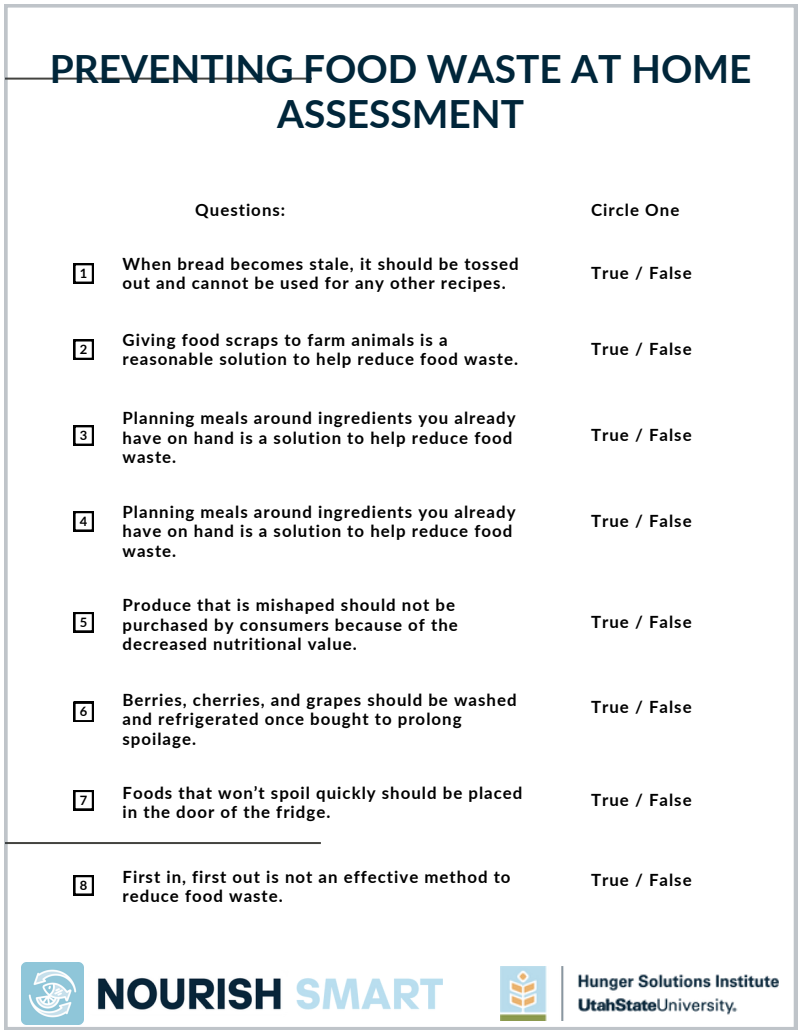
Smoothies

Have extra fruit that is about to go bad? Put it in a bag and freeze it! You can use this fruit for a smoothie at a later time.

What recipe did you make? Did it taste similar to conventional versions of these recipes? How does this help reduce food waste?

PREVENTING FOOD WASTE AT HOME ASSESSMENT

	Questions:	Circle One
1	When bread becomes stale, it should be tossed out and cannot be used for any other recipes.	True / False
2	Giving food scraps to farm animals is a reasonable solution to help reduce food waste.	True / False
3	Planning meals around ingredients you already have on hand is a solution to help reduce food waste.	True / False
4	Planning meals around ingredients you already have on hand is a solution to help reduce food waste.	True / False
5	Produce that is mishaped should not be purchased by consumers because of the decreased nutritional value.	True / False
6	Berries, cherries, and grapes should be washed and refrigerated once bought to prolong spoilage.	True / False
7	Foods that won't spoil quickly should be placed in the door of the fridge.	True / False
8	First in, first out is not an effective method to reduce food waste.	True / False



PREVENTING FOOD WASTE AT HOME ASSESSMENT

	Questions:	Circle One
1	When bread becomes stale, it should be tossed out and cannot be used for any other recipes.	True / False
2	Giving food scraps to farm animals is a reasonable solution to help reduce food waste.	True / False
3	Planning meals around ingredients you already have on hand is a solution to help reduce food waste.	True / False
4	Planning meals around ingredients you already have on hand is a solution to help reduce food waste.	True / False
5	Produce that is mishaped should not be purchased by consumers because of the decreased nutritional value.	True / False
6	Berries, cherries, and grapes should be washed and refrigerated once bought to prolong spoilage.	True / False
7	Foods that won't spoil quickly should be placed in the door of the fridge.	True / False
8	First in, first out is not an effective method to reduce food waste.	True / False

NOURISH SMART

Hunger Solutions Institute
UtahStateUniversity.

Answer Key:

1. False; Stale bread is great to make French toast and croutons.
2. True
3. True
4. True
5. False; Produce that is mishaped has the same nutritional value as normal-shaped produce.
6. False; These foods should only be washed once they are ready to be consumed. Washing them early can accelerate spoiling.
7. True
8. False; It is a very effective method.