

SAVING THE SCRAPS: REDUCING FOOD WASTE IN THE KITCHEN

Student Name:

Summary: Valuing every bit of the food that has been produced means taking it to its full potential, making every bite a delight. This very approach has given us some of the world's most delicious, iconic dishes. Think about French toast, Italian ravioli, fried rice or pickles, but also many more local traditional ones. They all are creative responses to reducing waste, honoring the farmer's work and nature while reducing cost. In this lesson, you will learn about food waste and then try making some recipes utilizing ingredients that might have otherwise been wasted.

Time: 20-40 mins (longer if completing recipes. See recipe directions for details.)

Materials:

- Vegetable Stock Lesson (attached below)
- Quick Pickles Lesson (attached below)
- Any Organic Greens Pesto Lesson (attached below)

Vocabulary:

- **Food Waste:** the food that is grown and produced but never consumed.
- **Organic:** food grown or made without the use of synthetic chemicals or genetically engineered seeds



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READ: Have you heard the term food waste before? **Food Waste** is the food we grow that never gets eaten. A lot of food is left unharvested or tilled into the earth. Some is harvested and then rejected at packing plants. Food that expires on grocery store shelves is thrown away. Finally, food is wasted at home, too!

WATCH: Learn more about food waste by watching UN Food and Agriculture Organization's [Food Wastage Footprint](https://www.youtube.com/watch?v=IoCVrkcaH6Q/Watch): <https://www.youtube.com/watch?v=IoCVrkcaH6Q/Watch>. Watch twice, first just view the video. The second time you watch, take notes on the information in the video.

Notes from Video:



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READ:

As you read the section below, *talk to the text* by using a pen or pencil to underline and circle words, ask questions, and make notes in the margins about what stands out to you.

Did you know?

- Globally, around **14 percent** of food produced is lost between harvest and retail. Significant quantities are also wasted in retail and at the consumption level.
- When food is lost or wasted, all the resources that were used to produce this food – including water, land, energy, labour, and capital – go to waste. In addition, the disposal of food loss and waste in landfills leads to greenhouse gas emissions, contributing to climate change.
- The highest levels of losses of fruits and vegetables generally occur at harvest and during transportation.
- When **reductions in food loss occur close to the farm, they are most effective in addressing food insecurity and in alleviating stress on land and water.**
- When **reductions in food waste occur downstream in the supply chain and at the consumer** level they are **key to cutting greenhouse gas emissions.**
- The largest **improvements in food security** are likely to occur by reducing food losses in the early stages of the supply chain, especially on-farm and at harvest in countries with high levels of food insecurity.
- Nutrient loss due to **quantitative and qualitative food loss and waste** may **represent a missed opportunity to reduce malnutrition and micronutrient deficiencies.**
- **38 percent** of total energy consumption in the global food system is utilized to produce food that is either lost or wasted.

These statistics were written by Food and Health Organization of the United Nations. For more information, see [International Day of Awareness of Food Loss and Waste Page](#).



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WRITE: Answer questions and reflections about food waste.

1. Write **three** things you found interesting from the **Did You Know?** facts or the **Food Wastage Footprint Video**
 - a.

 - b.

 - c.

2. Write down your answers to these **two** questions about your own food waste:
 - a. Have you ever thrown away a whole piece of food? For example, a piece of fruit.

 - b. What were some of the reasons you threw that food away?

3. Write down **one** question you have.

MAKE: Try making these recipes that utilize ingredients that might have otherwise been considered waste.

Saving Scraps for Vegetable Stock Lesson:

Summary: No matter the season, vegetable stock is a staple for many cooking projects and is also a great way to reduce food waste. In this lesson, you will learn how to make stock from kitchen scraps, reflect on food waste, then make some delicious spring and summer soup recipes.

Create Your Own: Quick Organic Pickles

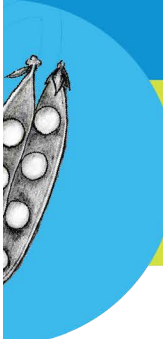
Summary: Pickles are a delicious snack or accompaniment to many different foods. Pickling — the process of fermenting in a salt brine or using vinegar to preserve and flavor vegetables — is believed to be the oldest method of preserving food and dates back to over 4,000 years old. In this lesson, you will learn one of the many techniques to pickle vegetables.

Create Your Own: Any Organic Greens Pesto

Summary: Have you eaten pesto before? Traditionally, pesto recipes are made with basil, but in the recipe you will try here we encourage you to experiment with different kinds of greens and herbs! In this lesson, you will make some greens pesto.

Teacher and Student Notes:

- Looking for additional resources on teaching about food waste?
 - See FAO's food waste [Teaching Guide Children and Young Students](#).
 - Check out UNEP's [Think.Eat.Save](#) website for information on reducing your foodprint.
- The textual analysis portion of this lesson was written for young people ages 13 and up. However, it can be easily adapted for younger grades. See the below resources for videos and lessons plans on food waste for primary school-aged children.
 - [Video on Food waste. https://www.youtube.com/watch?v=ctIVq8RcxQQ&feature=emb_rel_end](https://www.youtube.com/watch?v=ctIVq8RcxQQ&feature=emb_rel_end)



SAVING THE SCRAPS

[VEGETABLE STOCK LESSON]

Student Name:

Summary: No matter the season, vegetable stock is a staple for many cooking projects and is also a great way to reduce food waste. In this lesson, you will learn how to make stock from kitchen scraps, reflect on food waste, then make some delicious spring and summer soup recipes.

Time: 20-40 mins (longer if completing recipes. See recipe directions for details.)

Materials:

- [Stock Recipe Visual](#)
- Organic (preferred) vegetable scraps

Vocabulary:

- **Stock**, sometimes called broth, is a savory cooking liquid that forms the basis of many dishes, particularly **soups**, stews and sauces. Making **stock** involves simmering animal bones or meat, seafood, or vegetables in water or wine, often for an extended period of time



SAVING THE SCRAPS: [VEGETABLE STOCK LESSON]

MAKE: Try your hand at making this recipe for a stock made from organic vegetable scraps that would have otherwise gone in the compost. For this recipe, use our [Stock Recipe Visual](#). We recommend gathering vegetable scraps (for example, onions, garlic, green ends, carrot tops) throughout a couple of days or a week. **Keep the vegetable scraps in the freezer and then make a big batch of stock!** Get your family involved, ask a parent or guardian to help you!

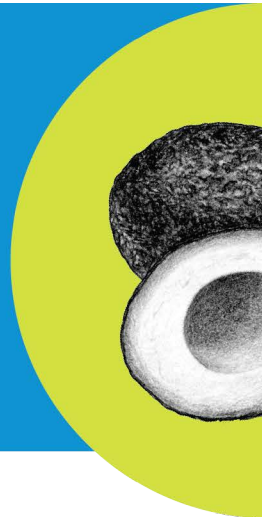


Figure one: These are all the food scraps saved from one meal!

Student Notes: Now that you have your stock, try making some soup! Look for a recipe in your family's cookbooks or on the Internet.

Teacher and Parent Notes:

- This activity encourages students to feel that cooking and gardening are more accessible.
- This activity supports students to learn hard skills in growing and preparing food like knife technique, building a well-balanced compost pile, etc.
- This lesson is adapted from our [Autumn Harvest Soup](#) Lesson. The *Teacher Notes* section of that lesson is especially rich with ways to extend the lesson.



SAVING THE SCRAPS [QUICK PICKLES LESSON]

Student Name:

Summary: Pickles are a delicious snack or accompaniment to many different foods. Pickling — the process of fermenting in a salt brine or using vinegar to preserve and flavor vegetables — is believed to be the oldest method of preserving food and dates back to over 4,000 years old. In this lesson, you will learn one of the many techniques to pickle vegetables.

Time: 20-40 mins (longer if completing recipes. See recipe directions for details.)

Before you get started:

- Collect all materials
- Check-in with an adult at home before using a knife (if using a kitchen knife is something you do normally with supervision).

Materials:

- See the Create Your Own Quick Organic Pickles Visual (included below) to determine what materials you will use.

Vocabulary:

- **Salt brine:** a solution (mixture) of water and salt.
- **Preservation:** in cooking, the term preservation refers to the process of treating and handling food so that it slows down the process of spoilage.



SAVING THE SCRAPS

[QUICK PICKLES LESSON]

ANSWER: Spend some time thinking about the different types of pickles that you or your family are used to eating. Answer these questions, either with a classmate, a family member, or on your own.

1. Are there types of pickles you really like?

2. Does your family have a tradition of making your own pickles? If you don't know, ask one of your family members.

In this lesson, you will make some *quick pickles*.

DO: Complete the **Create Your Own Quick Organic Pickles** recipe by following each step and making your own choices. Remember to read over your recipe at least once before you begin cooking.

RECORD: Write down your recipe by circling each item you are adding or coloring that item in. You can also write down your completed recipe in the recipe card visual (attached below)

ENJOY: Now that you have made some pickles, enjoy them as a snack or as an accompaniment with many different foods.



SAVING THE SCRAPS

[PICKLES RECIPE VISUAL, PAGE 1]

Create your own Quick Organic Pickles



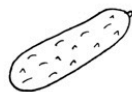
QUICK PICKLES ARE ALSO KNOWN AS REFRIGERATOR PICKLES. THEY ARE VEGETABLES THAT ARE PICKLED IN A VINEGAR, WATER AND SALT (SOMETIMES SUGAR, TOO) SOLUTION AND STORED IN THE REFRIGERATOR.

THIS RECIPE MAKES 2 PINT JARS WORTH OF PICKLES.

STEP ONE

PREP ALL YOUR ORGANIC VEGETABLES FOLLOWING THE DIRECTIONS BELOW AND PACK THEM INTO 2 PINT-SIZED JARS.

• CHOOSE ORGANIC VEGETABLES: 1lb TOTAL



CUCUMBERS



OKRA



CARROTS



RED ONIONS



RADISHES



CAULIFLOWER



TURNIP

OTHER OPTIONS:

SUMMER SQUASH, CELERY, ASPARAGUS, WATERMELON RINDS, BELL PEPPERS, GREEN BEANS, BEETS, YELLOW ONIONS. CHOOSE ONE OR PICK A COMBINATION OF A COUPLE.

• CHOOSE PREPARATION METHOD:



THINLY SLICED



CUT INTO SPEARS



DICE

→ WE RECOMMEND CUTTING THE SUMMER SQUASH INTO SLICES. BEETS AND CARROTS PICKLE BEST WHEN PEELED.

STEP TWO

CHOOSE SPICES AND SEASONINGS

• ADD GARLIC (OPTIONAL)



2 CLOVES
SMASHED FOR MILD GARLIC FLAVOR,
OR SLICED FOR STRONGER GARLIC FLAVOR



SAVING THE SCRAPS

[PICKLES RECIPE VISUAL, PAGE 2]

- CHOOSE FRESH HERBS AND SPICES: 1-3 SPRIGS OR 1 TABLESPOON MINCED (OPTIONAL)



THYME



DILL



ROSEMARY



OREGANO



→ YOU CAN USE THE DRIED VERSION OF THESE HERBS

- CHOOSE WHOLE SPICES: (OPTIONAL)



2 TEASPOONS
BLACK PEPPERCORNS



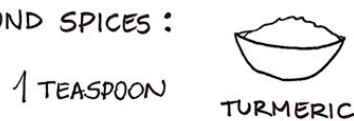
3 TEASPOONS
CORIANDER



1 TABLESPOON
MUSTARD SEEDS



- CHOOSE GROUND SPICES:

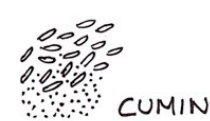


1 TEASPOON

TURMERIC



SMOKED
PAPRIKA



CUMIN

STEP THREE

HEAT VINEGAR AND WATER WITH SALT, SPICES AND SEASONINGS

- CHOOSE VINEGAR: 1 CUP



WHITE OR RED
VINEGAR



APPLE CIDER
VINEGAR



RICE
VINEGAR

- ADD WATER: 1 CUP

- ADD SALT: 1 TABLESPOON

- CHOOSE SWEETENER: 1 TABLESPOON (OPTIONAL)



GRANULATED
SUGAR

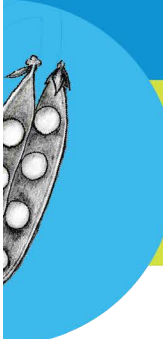


HONEY



PALM SUGAR

DIRECTIONS: HEAT VINEGAR, WATER, SEASONINGS, SPICES, SALT AND SWEETENER (IF USING) IN A SAUCEPAN. ONCE IT COMES TO A BOIL TURN IT OFF AND LEAVE FOR 3 MINUTES. POUR BOILING MIXTURE OVER THE PREPARED VEGETABLES JARS. LEAVE THE JARS ON THE COUNTER UNTIL THEY ARE COOL. LID THEM AND STORE IN THE REFRIGERATOR THEY SHOULD KEEP FOR UP TO 3 WEEKS.



SAVING THE SCRAPS

[ANY ORGANIC GREENS PESTO LESSON]

Student Name:

Summary: Traditionally, pesto recipes are made with basil, but in the recipe you will try here we encourage you to experiment with different kinds of greens and herbs.

Time: 20-40 mins (longer if completing recipes. See recipe directions for details.)

Before you get started:

- Collect all materials
- Check-in with an adult at home before using a knife (if using a knife is something you normally do with supervision).

Materials:

- See the Create Your Own: Any Organic Greens Pesto visual (included below) to determine what materials you will use.

Vocabulary:

- **Emulsify:** combining two liquid ingredients that don't typically stay mixed together in a way so that they don't separate
- **Enzymes:** natural chemicals that speed up chemical reactions, including decomposition



SAVING THE SCRAPS

[ANY ORGANIC GREENS PESTO LESSON]

MAKE: This recipe utilizes different cooking techniques, like emulsifying and blanching. Take time to read about these techniques before you start making your pesto.

Blanching refers to the process of placing vegetables in boiling water for a short time. There are certain enzymes in vegetables that cause those vegetables to lose color, texture, and flavor over time. Blanching makes those enzymes inactive, preserving the color, text, and flavor of that vegetable. Blanching also converts starches to natural sugars, making vegetables sweeter.

To **emulsify** means to combine two ingredients together which do not easily go together.

Ingredients like fat or oil, like olive oil, and water-based liquids like vinegar or lemon juice do not mix naturally, so you must whisk vigorously to combine.

DO: Complete the **Create Your Own: Any Organic Greens Pesto** recipe by following each step and making your own choices. Please note, the recipe requires some special equipment, such as a blender, food processor, or a mortar and pestle. If you do not have that equipment see the student notes for directions.

RECORD: Write down your recipe by circling each item you are adding or coloring that item in. You can also write down your recipe using the recipe card visual.

Student Notes:

- If you don't have the equipment listed in the recipe, you can make pesto using a cutting board and knife by following these steps:
 - On a cutting board using a knife, start mincing the garlic and walnuts, working on the garlic by smashing with the flat side of the knife to continue to break them down.
 - Add greens to the work surface and mince. Then work them into garlic/walnut mixture, taking plenty of time to get the nuts and herbs to a fine texture before transferring them to a jar or bowl.
 - Add the salt and pepper, cheese, vinegar, and oil to the jar and stir, smashing against the sides with the back of a spoon until a thick green, chunky pesto is formed.
- Did you know that pesto freezes well! You can make a large batch of pesto and freeze for later use. Follow these steps:
 - Spoon the pesto into ice cube trays.
 - Place ice cube trays in the freezer for 3-4 hours or until completely frozen.
 - Remove the frozen pesto cubes from the trays and place in a freezer container.
 - The pesto will keep for up to 3 months.



SAVING THE SCRAPS

[PESTO RECIPE VISUAL, PAGE 1]

Create your own ANY ORGANIC GREENS PESTO



STEP ONE CHOOSE YOUR EQUIPMENT



A BLENDER



A FOOD PROCESSOR



A MORTAR & PESTLE

STEP TWO

MEASURE AND PREP ALL INGREDIENTS

• CHOOSE ORGANIC GREENS AND HERBS: 1 1/2 CUPS PACKED INTO A MEASURING CUP



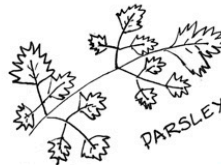
BASIL



CILANTRO



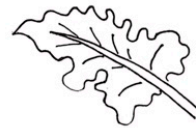
KALE



PARSLEY



ARUGULA



MUSTARD GREENS

DIRECTIONS: WASH, TRIM, RINSE AND CHOP

TRY A MIXTURE OF DIFFERENT TYPES! A NICE COMBINATION IS CILANTRO, PARSLEY, ARUGULA AND BASIL.

IF YOU ARE USING KALE OR MUSTARD GREENS, REMOVE STEMS FIRST YOU CAN EITHER *BLANCH THEM OR LEAVE THEM RAW.

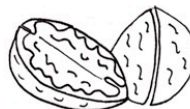
• CHOOSE NUTS OR SEEDS: 1/4 CUP OF:



SUNFLOWER SEEDS



ALMONDS



WALNUTS



PINE NUTS



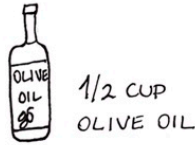
PISTACHIOS



SAVING THE SCRAPS

[PESTO RECIPE VISUAL, PAGE 2]

• ADD OLIVE OIL



1/2 CUP
OLIVE OIL

• ADD GARLIC:



1-3 CLOVES
FRESH GARLIC



4 CLOVES
ROASTED GARLIC

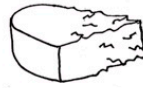
• ADD CHEESE: 1/2 CUP



PECORINO



ROMANO



PARMESAN

→ IF YOU WANT YOUR PESTO VEGAN,
REPLACE CHEESE WITH 3-4
TBSP NUTRITIONAL YEAST

• CHOOSE ACID: 1 TABLESPOON



LEMON JUICE



WHITE WINE
VINEGAR



APPLE CIDER
VINEGAR

• ADD SEASONINGS: SALT TO TASTE (START WITH 1 1/2 TEASPOON AND TASTE)

• OPTIONAL SPICES:



1/8 TEASPOON
GROUND CUMIN



1/2 TEASPOON
PEPPER



1/2 TEASPOON
RED PEPPER FLAKES



STEP THREE

MAKE PESTO

READ THE FOLLOWING STEPS FOR THE EQUIPMENT YOU CHOSE:

BLENDER: ADD ALL INGREDIENTS AND BLEND UNTIL SMOOTH.

FOOD PROCESSOR: ADD ALL INGREDIENTS EXCEPT YOUR OLIVE OIL. BLEND UNTIL CHUNKY, THEN SLOWLY ADD OLIVE OIL WHILE THE MOTOR IS RUNNING.

MORTAR AND PESTLE: MIX ALL INGREDIENTS EXCEPT OLIVE OIL AND ACID. POUND INTO A PASTE. THEN ADD ACID. ONCE INCORPORATED, SLOWLY ADD OLIVE OIL.

* THIS RECIPE IS A GREAT WAY TO USE UP YOUR GREENS THAT ARE WILTING, IN EXCESS OR PAST THEIR PRIME.

* TO BLANCH: PLACE THEM IN BOILING WATER FOR 2-3 MINUTES, REMOVE AND PLUNGE INTO ICED WATER OR PLACE UNDER COLD RUNNING WATER (SHOCKING OR REFRESHING) TO STOP THE COOKING PROCESS.



SAVING THE SCRAPS

[RECIPE CARD]

RECIPE:

~ INGREDIENTS ~

~ INSTRUCTIONS ~

Front

Fold or cut here

Back

~ INGREDIENTS ~

~ INSTRUCTIONS ~

RECIPE: