Dear Teacher,

We’d like to introduce you to ChopChop curriculum, designed as a tool to teach cooking as an interdisciplinary subject. Using ChopChop in the classroom not only inspires children to cook and eat real food, but also supports learning in math, science, social studies, English (ELA), and Spanish. You can adapt this curriculum to fit the needs of your classroom.

To create the best learning experience for your students, keep these ideas in mind:

- Read the Teachers Guide information in order to prepare for each lesson.
- Discuss the information with students in order to prepare them for class.
- Maintain high sanitation and safety standards within the classroom.

Sanitation

1. Make sure you and your students practice good handwashing before and during class (as needed). Use warm water and soap.
2. Tie back long hair and remove nail polish before cooking, and wear closed-toe shoes while cooking. Remind students to keep their hands away from their mouth and face.

Food & Kitchen Safety

1. Wash all fruits and vegetables before use.
2. Keep all kitchen gear and ingredients off the floor. Refrigerate perishable items.
3. Supervise students around cooktops, kitchen appliances, and sharp tools, such as knives.

- Establish a set of classroom rules to observe when cooking. For example:

  1. Be careful. Use equipment properly and be conscious of your surroundings.
  2. Be open-minded. You are going to try some new things and you may love them, but maybe you won’t: No “ewwww’s.”
  3. Be clean. Always wash your hands before you begin cooking.
  4. Be safe. Wear closed-toed shoes and tie back long hair.
  5. Be polite. Every day we will sit down to eat together. Please wait until everyone has finished cooking and has sat down before you start.
  6. Be tidy. Everyone will clean up their own mess.

Thank you for choosing ChopChop. We appreciate and value your expertise and welcome any feedback regarding the curriculum. If you have any questions, comments, or concerns, do not hesitate to contact us at teach@chopchopfamily.org.

Happy cooking!
The ChopChop Team
Teacher Guide

Cooking & Math
Math is one of the most important skills used in cooking. Math helps students measure ingredients, convert recipes, and change serving sizes. In this lesson, students will practice math skills such as using ratios, multiplying, dividing, and making conversions using the recipe for Make-It-Your-Way Vinaigrette.

- **Student Worksheets**
  - Recipe Ratios
  - Kitchen Math

Cooking & English (ELA)
Reading and writing are important parts of cooking. You can use reading recipes and mealtime conversation to teach language concepts and enrich writing skills. In this lesson, students will learn about word origins and also practice writing their own how-to story—which is very similar to how a recipe is written!

- **Student Worksheets**
  - Word Origins
  - "How-To" Writing Activity

Kitchen Science
Cooking is all about science: how foods grow, how foods taste, and how different ingredients interact.

- **Student Worksheets**
  - Taste Test: Vinegar
  - Emulsion Experiment

Cooking & History/Social Studies
Cooking is a great way to discuss history and culture. In this lesson, students will learn about the history of vinaigrette.

- **Student Worksheet**
  - Vinaigrette History and Geography

www.chopchopfamily.org
Make-It-Your-Way Vinaigrette

Make a jar of this bright-tasting dressing—it’s also great as a dip for raw vegetables and, of course, to dress a simple green salad.

**KITCHEN GEAR**
- Measuring cup
- Measuring spoons
- Glass jar or blender or food processor (adult needed)

**INGREDIENTS**
- ½ cup olive oil
- ¼ cup vinegar (any kind)
- ¼ teaspoon kosher salt

**INSTRUCTIONS**

1. Put everything in a jar, cover, and shake, shake, shake.
   Or: Put everything in a bowl and whisk, whisk, whisk.
   Or: Put everything in a blender or food processor and put the top on tightly. Turn the machine on and blend.

2. Taste the dressing on a leaf of lettuce. Does it need more oil, more vinegar, or a pinch of salt? If so, add it and taste again.

3. Use right away, or cover and refrigerate up to 2 weeks.

**NOTE:**
The dressing will separate over time and will need to be shaken before use to help it emulsify, or become a smooth mixture.

Serve as is, or put in one or a combination of these tasty additions:
- 1 teaspoon crumbled dried herbs (like thyme, rosemary, oregano)
- 1 tablespoon chopped fresh herbs (like mint, dill, basil, cilantro)
- ½ teaspoon ground spice (like black pepper, cayenne, cumin)
- 1 teaspoon mustard
- 1 teaspoon honey
- 1 tablespoon plain yogurt
- 1 tablespoon grated Parmesan cheese
- ½ teaspoon grated lemon, lime, or orange zest
- 1 minced garlic clove

**LEARN THE LINGO!**
Here are some of the cooking terms in this recipe.
- **Chopped** means cut up into small pieces
- **Minced** means finely chopped.
- **Grated** means reduced to small pieces by rubbing on a grater.
Recipe Ratios

Sometimes, you need to adjust the size of a recipe so that it can feed more people or fewer people. Recipes for sauces or dressings like vinaigrettes often use ratios in order to make the recipe easier. The classic vinaigrette ratio is 3:1, but for our Make-It-Your-Way Vinaigrette, we use a ratio of 2:1, which means for every 2 measures of oil, there is 1 measure of vinegar.

Solve these problems using the vinaigrette ratio of 2:1.

2 measures of oil for every 1 measure of vinegar

1. Anna and Marcus are making vinaigrette, and they have 1 cup olive oil. How much vinegar do they need to make the vinaigrette?

2. Josie wants to make vinaigrette using apple cider vinegar for her small green salad. She has already measured 1 tablespoon of apple cider vinegar. How much oil does Josie need to add in order to make the vinaigrette?

3. Manny is having a big birthday party and wants to serve salad with vinaigrette to his guests. If he buys two 16-ounce bottles of balsamic vinegar, how many 16-ounce bottles of olive oil does Manny need in order to make the vinaigrette?

Bonus Question:

Jacob wants to make vinaigrette. He has all of his ingredients— but he forgot his measuring tools! All he has is a small mug. Can Jacob make vinaigrette even though he does not have any measuring tools? If so, how?
Kitchen Math

Cooking requires measuring, but sometimes you won’t have the measuring equipment you’re used to using. The Make-It-Your-Way Vinaigrette recipe uses ¼ cup vinegar. If you only have tablespoons on hand, though, you can use those instead.

Try these calculations:

¼ cup = 4 tablespoons

- This recipe uses ¼ cup of vinegar. If ¼ cup = 4 tablespoons, how many tablespoons of vinegar would this recipe use? ________
- This recipe uses ½ cup of olive oil. How many tablespoons of olive oil would this recipe use? ________
- If a recipe uses 16 tablespoons of vinegar, how many cups of vinegar would the recipe use? ________
- How do you know? (Use a number sentence, or equation.) ________________________________

- If a recipe uses 32 tablespoons of olive oil, how many cups of vinegar would the recipe use? ________

Extra challenge:

1 tablespoon = 3 teaspoons

- If you only had a teaspoon measuring spoon, how many times would you need to fill it to get ¼ cup? ________
- How do you know? (Use a number sentence, or equation.) ________________________________
Word Origins

Many English words originally came from other languages and often do not follow English spelling patterns. The word “vinaigrette” may look funny at first glance. This might be because it is adopted from the French word “vinaigre,” meaning “vinegar.”

Look at the words below, and use a dictionary to find out which languages and words they originally came from.

<table>
<thead>
<tr>
<th>Example:</th>
<th>Vinaigrette</th>
<th>French</th>
<th>Vinaigre</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Café</td>
<td>___________</td>
<td>___________</td>
<td></td>
</tr>
<tr>
<td>2. Mayonnaise</td>
<td>___________</td>
<td>___________</td>
<td></td>
</tr>
<tr>
<td>3. Sushi</td>
<td>___________</td>
<td>___________</td>
<td></td>
</tr>
<tr>
<td>4. Hamburger</td>
<td>___________</td>
<td>___________</td>
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<tr>
<td>5. Spaghetti</td>
<td>___________</td>
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<td>6. Ketchup</td>
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<tr>
<td>11. Tortilla</td>
<td>___________</td>
<td>___________</td>
<td></td>
</tr>
</tbody>
</table>
“How-To” Writing Activity

A recipe is like a how-to story; it teaches you how to do something. Write your own how-to story and teach someone how to do something.

It can be just about anything: how to make a peanut butter and jelly sandwich, how to play your favorite game, how to brush your teeth, how to cook something, or anything else you want to teach someone—like how to make a vinaigrette!

When you are writing your how-to story, try to imagine what it would be like for someone who has never done anything like it before. This will help you remember all of the steps to write down for beginners.

First, organize your thoughts by listing the steps:

1. **Title:** What skill you are teaching? How to __________________________________________________________

2. **Introduction:** Write what you are going to be explaining and why you think it is important. Make sure to mention any materials the reader will need.

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“How-To” Writing Activity continued

3. **Step-by-Step Directions:** In your head, think about the steps you need to take to complete the activity. List the steps of the activity in order. Use transition words that show the order, such as first, second, third, now, next, finally, etc. This will help the reader understand the timing of each step.

- Step 1. ________________________________________________________________
- Step 2. ________________________________________________________________
- Step 3. ________________________________________________________________
- Step 4. ________________________________________________________________
- Step 5. ________________________________________________________________
- Step 6. ________________________________________________________________

Now you’re ready to write your story! Write your introduction first, and then add the steps. Remember to use transition words!

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**Taste Test: Vinegar**

Your sense of taste is made possible by your taste receptor cells. Taste receptor cells are bundled into clusters that we call taste buds. Your sense of taste occurs when these taste receptor cells become excited. There are five types of tastes that humans recognize: sweet, salty, sour, bitter, and umami. Umami means “yummy” in Japanese, and it is the savory and rich taste of amino acids, like meat broth or aged cheese.

Vinegars can fall under multiple taste-type categories. For example, some may taste sour, and others might taste sweet!

*Try this taste test experiment:*  
Sample four different types of vinegar by putting each in a separate bowl and dipping raw vegetables (like carrots!) into each one. Label each vinegar sample with a number. Some recommended vinegars are: red wine vinegar, white vinegar, rice vinegar, balsamic vinegar, and apple cider vinegar.

**Observations:**

<table>
<thead>
<tr>
<th>Vinegar Sample</th>
<th>Color</th>
<th>Taste Type</th>
<th>Would you use this on your salad?</th>
<th>Guess—What type of vinegar is this sample?</th>
</tr>
</thead>
<tbody>
<tr>
<td>(example)</td>
<td>clear</td>
<td>sour</td>
<td>yes</td>
<td>white vinegar</td>
</tr>
<tr>
<td>#1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>#2</td>
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<tr>
<td>#3</td>
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<td></td>
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<tr>
<td>#4</td>
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</tr>
</tbody>
</table>
Emulsion Experiment

When making your vinaigrette, you might notice that the oil and vinegar do not mix immediately, and you have to shake up the ingredients in order to make them mix. This is called a temporary emulsion.

Emulsion, a term used in chemistry, is a mixture of two liquids that ordinarily do not combine (like oil and vinegar!). When stirred or shaken vigorously, tiny droplets of one of the liquids will become suspended in the other. The two liquids will form a temporary emulsion, but soon after, they will separate into distinct layers. A permanent emulsion can be made by adding a third substance. We call this third substance an emulsifier or emulsifying agent.

Emulsifiers come in many forms: Mustard, garlic, tomato paste, egg yolks—even cream!—are all emulsifiers. All of these emulsifiers taste delicious in vinaigrettes as well.

Try this emulsion experiment:

Using the Make-It-Your-Way Vinaigrette recipe, add 1 tablespoon of mustard to the mixture. Then, draw your observations:

<table>
<thead>
<tr>
<th>Before adding the emulsifier:</th>
<th>When adding the emulsifier:</th>
<th>After the mixture was shaken:</th>
</tr>
</thead>
</table>

How did the mixture change after you added the mustard? _______________________________________________________

Bonus Question:

Do a bit of research on emulsifiers. What makes an ingredient an emulsifier? ______________________________________
__________________________________________________________
Vinaigrette History and Geography

The use of oil and vinegar to flavor vegetables dates back to ancient Greece and Italy. Greeks claim to have discovered and used the first olive tree for its oil. Vinegar, on the other hand, invented itself—wine, exposed to oxygen, went bad, creating vinegar!

The term “vinaigrette” goes back to at least 1699, when John Evelyn mentioned “Vinaigrets” in his book on salads called *Acetaria*.

Derived from the French word “vinaigre,” meaning vinegar, vinaigrette is typically considered to be a French sauce. Around 1900 in Britain and America, the term “French dressing” became a popular synonym (substitute) for “vinaigrette,” though it really is not how the French made their vinaigrette.

Map Identification

Can you identify and color the three European countries mentioned in the vinaigrette history?
Recipe Ratios

Sometimes, you need to adjust the size of a recipe so that it can feed more people or fewer people. Recipes for sauces or dressings like vinaigrettes often use ratios in order to make the recipe easier. The classic vinaigrette ratio is 3:1, but for our Make-It-Your-Way Vinaigrette, we use a ratio of 2:1, which means for every 2 measures of oil, there is 1 measure of vinegar.

Solve these problems using the vinaigrette ratio of 2:1.

2 measures of oil for every 1 measure of vinegar

1. Anna and Marcus are making vinaigrette, and they have 1 cup olive oil. How much vinegar do they need to make the vinaigrette?
   
   ½ cup vinegar

2. Josie wants to make vinaigrette using apple cider vinegar for her small green salad. She has already measured 1 tablespoon of apple cider vinegar. How much oil does Josie need to add in order to make the vinaigrette?
   
   2 tablespoons oil

3. Manny is having a big birthday party and wants to serve salad with vinaigrette to his guests. If he buys two 16-ounce bottles of balsamic vinegar, how many 16-ounce bottles of olive oil does Manny need in order to make the vinaigrette?
   
   4 16-oz bottles olive oil

Bonus Question:

Jacob wants to make vinaigrette. He has all of his ingredients—but he forgot his measuring tools! All he has is a small mug. Can Jacob make vinaigrette even though he does not have any measuring tools? If so, how?

Yes. He can use the mug. For example, measure 2 mug-fulls of oil and 1 mug-full of vinegar.
Kitchen Math

Cooking requires measuring, but sometimes you won’t have the measuring equipment you’re used to using. The Make-It-Your-Way Vinaigrette recipe uses \( \frac{1}{4} \) cup vinegar. If you only have tablespoons on hand, though, you can use those instead.

Try these calculations:

\( \frac{1}{4} \) cup = 4 tablespoons

- This recipe uses \( \frac{1}{4} \) cup of vinegar. If \( \frac{1}{4} \) cup = 4 tablespoons, how many tablespoons of vinegar would this recipe use? 4 tablespoons
- This recipe uses \( \frac{1}{2} \) cup of olive oil. How many tablespoons of olive oil would this recipe use? 8 tablespoons
- If a recipe uses 16 tablespoons of vinegar, how many cups of vinegar would the recipe use? 1 cup
- How do you know? (Use a number sentence, or equation.) \[ 16 \text{ tablespoons} \div 4 \text{ tablespoons} = 4 \]

\[ 4 \left( \frac{1}{4} \text{ cup} \right) = 1 \text{ cup} \]

- If a recipe uses 32 tablespoons of olive oil, how many cups of vinegar would the recipe use? 1 cup

\[ 32 \text{ tablespoons oil} \div 4 \text{ tablespoons} = 8 \]
\[ 8 \left( \frac{1}{4} \text{ cup} \right) = 2 \text{ cups oil} \]
\[ 2 \text{ cups oil} \div 2 = 1 \text{ cup vinegar} \]

Extra challenge:

1 tablespoon = 3 teaspoons

- If you only had a teaspoon measuring spoon, how many times would you need to fill it to get \( \frac{1}{4} \) cup? 12
- How do you know? (Use a number sentence, or equation.) \[ 3 \text{ teaspoons (4 tablespoons)} = 12 \text{ tablespoons} \]
**Word Origins**

Many English words originally came from other languages and often do not follow English spelling patterns. The word “vinaigrette” may look funny at first glance. This might be because it is adopted from the French word “vinaigre,” meaning “vinegar.”

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