



VEGGIES!
30 WAYS IN 30 DAYS
TAKE THE CHALLENGE!

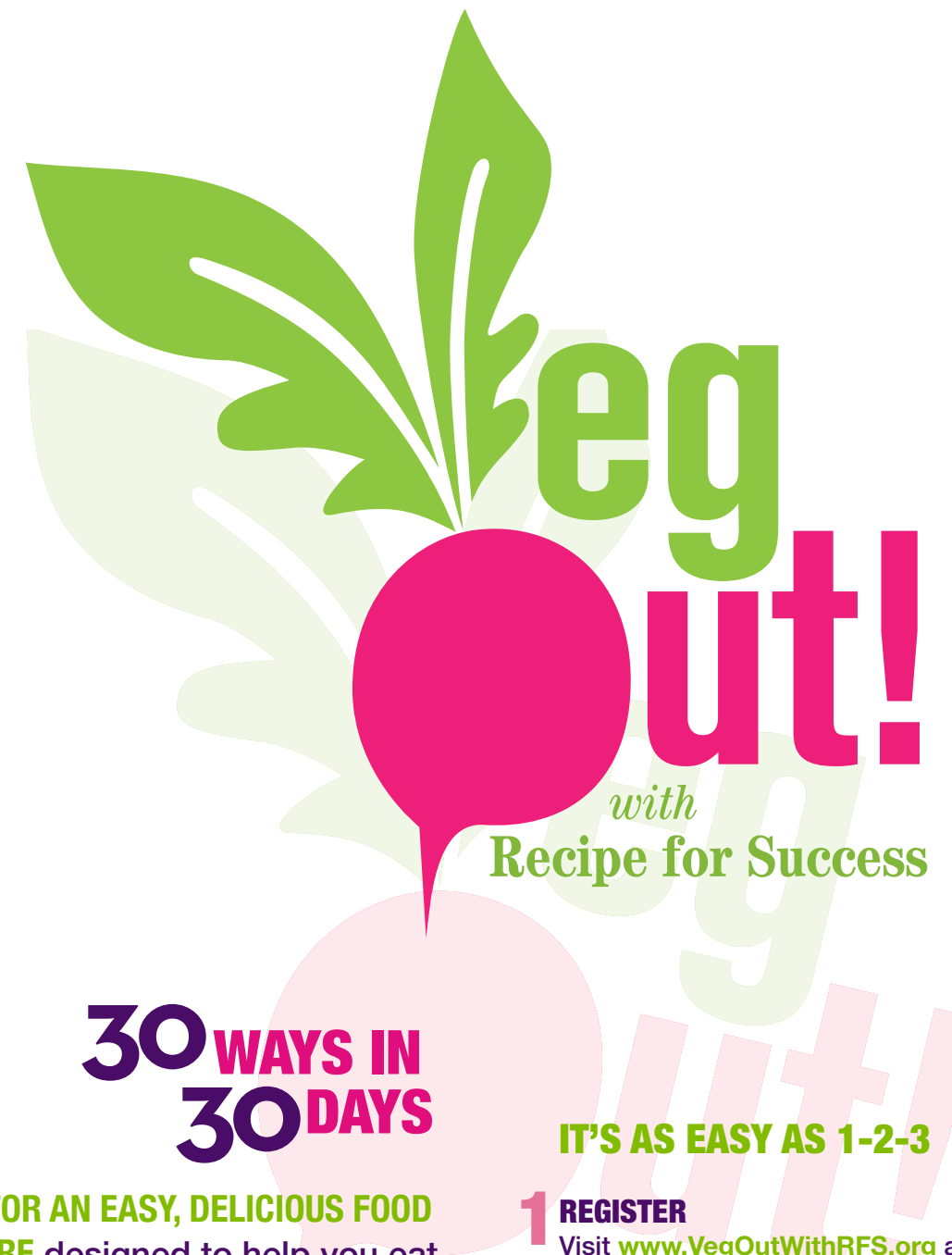


Changing the way our children eat

ABOUT RECIPE FOR SUCCESS FOUNDATION

Since 2005 Recipe for Success Foundation has worked to combat childhood obesity by changing the way our children understand, appreciate and eat their food, and by educating and mobilizing the community to provide healthier diets for children. Our award-winning Seed-to-Plate Nutrition Education™ curriculum has empowered more than 30,000 youth with the knowledge and skills to make a lifetime of healthy eating decisions. Programs—like our farmers marKIDS curriculum, Eat It! Food Adventures children's cookbooks, annual VegOut! 30-Ways-in-30-Days Challenge in March, and a host of other tools to build community awareness and passion for change—reflect our mantra that healthy food can be a fun adventure.

We envision a world where healthy eating is the norm and a culture where nutritious food is shared, appreciated and celebrated, and we won't stop until we live in it. Learn more at recipe4success.org.



JOIN US FOR AN EASY, DELICIOUS FOOD ADVENTURE designed to help you eat healthier and expand your repertoire of fresh produce options. We give you lots of resources to make it easy. Take the challenge in March and you may win one of dozens of exciting prizes.

IT'S AS EASY AS 1-2-3

- 1 REGISTER**
Visit www.VegOutWithRFS.org and download your veggie log and explore our resources.
- 2 EAT**
Try and track 30 different vegetables before the end of March to qualify for prizes.
- 3 SHARE**
Join in the conversation on our website and spread the word on social media, start a team, join a team and reach out to get your family, school, colleagues and community involved. Use the tag [#vegout2015](https://twitter.com/vegout2015) to share your progress on social media sites.



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TASTE THIS! LESSON

OBJECTIVE

Students will **taste** then identify the five main flavors--sour, sweet, salty, bitter, and umami.
Students will **experiment** with flavors and their combinations.
Student will **articulate** the purpose of mise en place and organization in the kitchen.

Grades: K-5

Time: 20 mins

TEKS Alignment: HE.K.4.A, HE.1.4.A

Common Core Alignment: Speaking and Listening Standards 1, 3, 4, and 6

BACKGROUND

Taste This! focuses on the tongue and taste buds. The tongue is covered in taste buds that detect flavors of food, minerals, and poison. The four primary tastes are: sour, sweet, salty and bitter. When all of these tastes are activated at once, a fifth taste called umami emerges.

Allowing students to experiment with tasting healthy food ingredients opens the door to becoming a food adventurer. Healthy food tastes good! Learning about the primary tastes will empower students to articulate their food experiences, as well as increase their understanding of how to prepare food that is pleasing to the palate.

You will also discuss the concept of **mise en place** (*pronounced MEEZ ahn plahs*), French for “everything in its place.” It is used in the kitchen to refer to organizing and arranging the ingredients and tools that a cook will require to prepare a dish. Ingredients are measured out, washed, chopped, and placed in individual bowls and equipment is prepared for use. Preparing the mise en place ahead of time allows the chef to cook without having to stop to get things in the middle of a recipe.

PREPARATION

Materials:

- Tasty Tongue poster
- Handouts of blank Tasty Tongue chart
- Dry erase board or chalkboard

Small tasting spoons
Lemon Juice
Grapefruit sections or Unsweetened Cocoa
Kosher or Sea Salt
Honey
Soy Sauce

Classroom Preparation

Create mise en place by setting up each Tasty Tongue tasting plate (one for each group of 4-6 students)
Display Tasty Tongue poster on board or projection screen

DISCUSSION

Today we're going to talk all about the senses. Does anyone know how many senses there are? Can anyone name all five senses? Go through each sense pointing to the place on the face that uses them—for instance when you say "sight," point to your eyes. When you're in the kitchen, you get to use ALL of your senses, but one of the most important ones is TASTE! We taste using our tongues.

Today we're going to talk mainly about tastes, flavors, and the tongue's taste buds. Think of your favorite food and what it tastes like. Can you describe to me how it tastes? Write answers on the board as students describe. For 1st – 3rd grade in particular, it is essential that they speak in complete sentences, ie: "My favorite food is a/n _____ and it tastes _____. For 4th and 5th grade, it is essential to set the stage for "formal English" in an academic discussion. You can provide sentence stems like "I agree with Sarah, my favorite food is _____, and I prefer tastes that are _____."

Point out the Tasty Tongue poster. These places on the tongue show us the 4 main tastes: sweet, sour, salty, and bitter. Each of these flavors is best tasted on a certain part of the tongue, but your tongue is covered in taste buds that can all taste flavors! The fifth flavor is called Umami. Repeat after me: U-ma-mi! Umami is not just one flavor, it's a combination of all 4 flavors mixed together. Call and response will work best as you go through each taste and possibly identify foods that fit in each category.

ACTION

Now we get to do an experiment where we will try each flavor. At each station, there is a plate with five different ingredients. These ingredients are mise en place. Repeat after me: mise en place! Mise en Place is a French phrase that means "everything in its place". It is used in the kitchen to refer to organizing and arranging the ingredients and tools that a cook will require to prepare a dish. Why might it be important for cooks to have everything they need ready before they start? (So they don't burn anything, etc.) How is your station set in mise en place? (The ingredients are divided, the spoons are set out, etc.)

Each of these ingredients represents a flavor. Point to each ingredient and have students taste together. As you work through each of the tastes ask the following questions:

What flavor is this?

Where do you taste this flavor on your tongue?

What other foods are also _____?

DID YOU KNOW? *The sense of taste and smell combine to create "flavor." Without the olfactory glands in the nose, full flavor cannot be sensed. The senses of taste and smell work together to help you identify flavors when you eat foods.*

If time allows, go through the tastes again while students pinch their noses so they can't smell. Ask if certain flavors taste different.

WRAP UP

Give students a blank handout of the Tasty Tongue chart. Instruct them to recall the taste associated with certain foods that they tasted today. Then, write the flavor of that food in the proper spot on the tongue. For example, when you say lemon juice, students will recall that it is sour. Then they should remember its taste on the tongue and write the word "sour" in the proper spot(s) on the chart.

Debrief/Summary: Which tastes were your favorite today and why? How are you now better able to describe the foods you eat? Especially when tasting foods that are not appealing to you, think about the flavors and how they combine to make that dish. Was something too sweet for you? Did you get too much salty flavor? Sometimes, small adjustments to flavor can change your opinion of it.

Turn your paper over and write or draw an example of a food you do not like. Then determine why you do not like it using the tongue chart. Write your summary underneath the name of the food you do not like.

ASSESSMENT

Students will be **informally** assessed following the completion of the recipe when asked to name the five tastes that they learned about in the lesson and during the recipe execution. Students will also respond to questions about the importance of mise en place.

Students will be formally assessed by recalling taste associated with sample foods and then using that taste memory to fill in the blank Tasty Tongue chart. Students will also articulate using terms from the chart why they do not find a certain food pleasing.

STIRRING THE POT

At your next meal, see if you can locate all the flavors from your plate on your palate. What is sweet? What is salty? What is sour? What is bitter? Do the flavors of this dish combine to create umami? If not, what can you change or add to create umami?

VOCABULARY

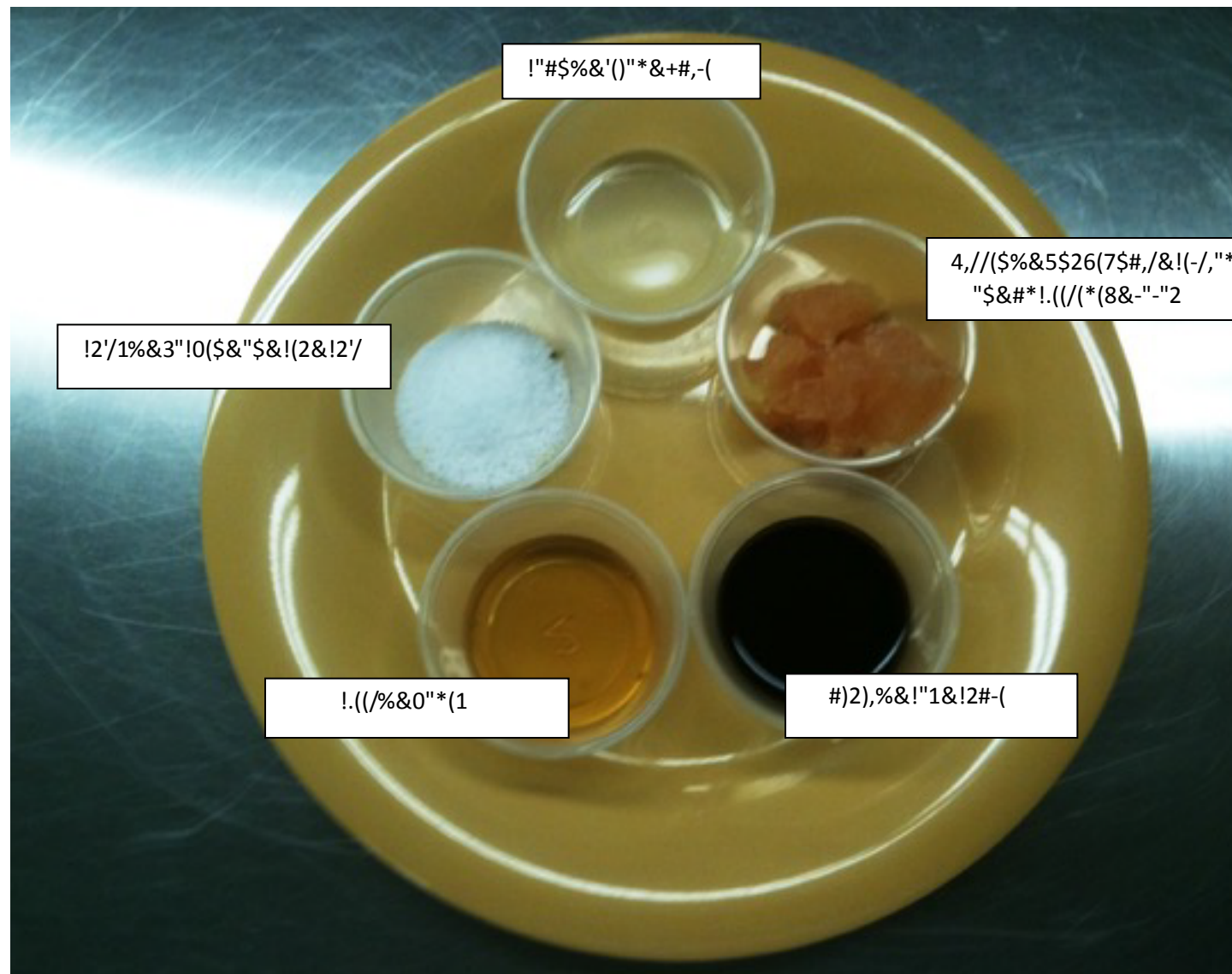
TASTE BUDS: Sensory organs in the tongue.

FLAVOR: An identifiable or distinctive quality of food or drink perceived with the combined senses of taste and smell.

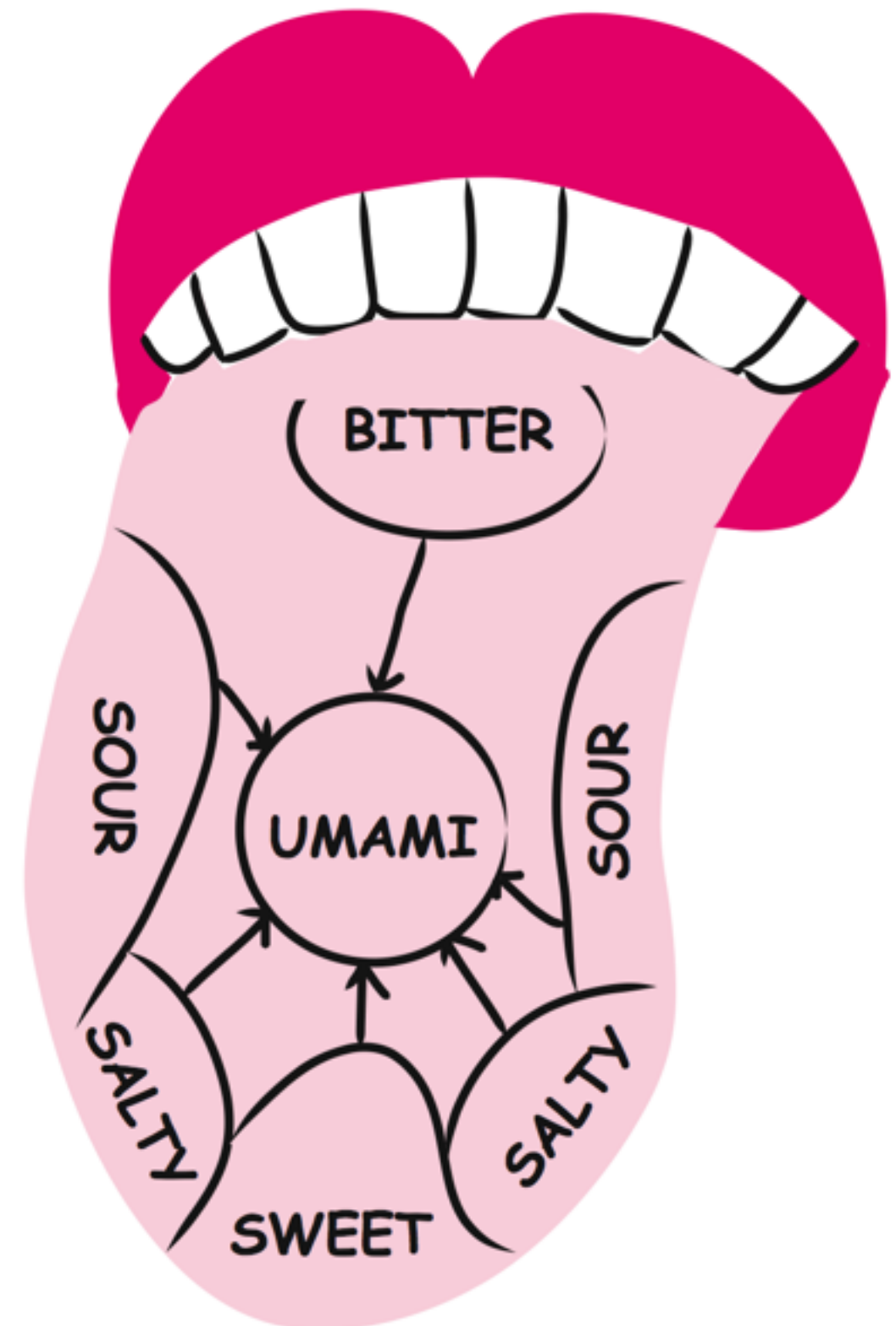
MISE EN PLACE: A French phrase translated literally as "set in place."

UMAMI: The "fifth taste" that emerges when all four primary tastes are present.

Set up a Tasting Plate per Each Station of 4-6 Students



Have the students taste what's in each of the five glasses and discuss which area of the tongue they can taste the flavors. Have the students describe the tastes in their own words.



GRADE-LEVEL DIFFERENTIATIONS

Pre-K and Kindergarten: Younger students should use lots of call and response to identify the five senses and flavors. Consider using picture cards to show foods in each category of flavor. Ask students about their favorite treats and help them select its corresponding taste. Pointing to sense organs will be extremely helpful in having them identify five senses. Students should try each of the flavors and begin to understand that the way something tastes is the flavor. This may be extremely beneficial for students who have trouble articulating likes and dislikes—they just simply don’t have the vocabulary yet to explain what they think.

It also may be helpful to have the “whole” version to provide a visual of whatever flavor you’re using—for instance a bottle of honey for sweet, a lemon for sour, etc.

1st – 3rd Grades: These students should focus on engaging in the discussion about flavor. Spend more time discussing favorite foods and their flavors, common foods that have specific flavors, and what the students think of each flavor. By the end of this class, we want students to be prepared to identify flavors in future lessons and describe the foods they cook in class using flavor words rather than simply “I like it” or “I don’t like it.”

It may also be helpful to have the “whole” version to provide a visual of whatever flavor you’re using—for instance a bottle of honey for sweet, a lemon for sour, etc. Students should focus on using complete sentences. Provide sentence stems as needed to scaffold students from one-word answers to “My favorite food is an apple because it tastes a little bit sweet and a little bit sour.”

4th – 5th Grades: This lesson can still be used to practice the skill of academic discussion, something that will prepare them for middle school and beyond. This may also be a time where students can practice using “formal English” to engage in an academic discussion about flavor and taste. During this lesson, students should be able to identify and describe senses and flavors with little to no teacher prompting. By the end of the lesson, students should be able to describe dishes and recipes using flavor words and even determine “what’s missing” to create Umami.

Consider challenging students to read a recipe aloud, identify flavors from the text, then determine whether or not a recipe has Umami. Allow students to collaborate in groups to examine a recipe and then report back to the class on findings.

GRADE LEVEL	ACCOMMODATIONS	TEKS	COMMON CORE
Pre-K – Kindergarten	Use lots of visual and physical displays like pointing to sense organs when describing senses. Encourage students to use flavor to describe foods and determine what their favorite flavors are.	HE.K.4.A: Identify and demonstrate use of the five senses HE.K.8.B: Explain the importance of showing consideration and respect for teachers, family members, friends, peers, and other individuals; and HE.K.8.C: Recognize and explain the importance of manners and rules for healthy communication and treating others with respect.	Speaking and Listening Standard 6: Participate in collaborative conversations with diverse partners. Follow rules for discussions. Confirm understanding by asking and answering questions. Add visual displays to description.
1st – 3rd Grade	Encourage students to speak in complete sentences and provide details about their favorite foods and tastes. After this lesson, consistently referencing flavor words when tasting food will encourage students to develop mature taste buds that are open to a variety of new things.	HE.1.4.A: Identify and demonstrate use of the five senses K&S.27: Students organize and present their ideas and information according to the purpose of the research and their audience. Students (with adult assistance) are expected to create a visual display or dramatization to convey the results of the research. K&S.28A/B: Students listen attentively, ask relevant questions, and restate.	Speaking and Listening Standard 6: Participate in collaborative conversations. Confirm understanding, recount, describe information presented. Build on others’ talk by responding to comments of others. Follow rules for discussions. Confirm understanding by asking and answering questions. Add visual displays to description.

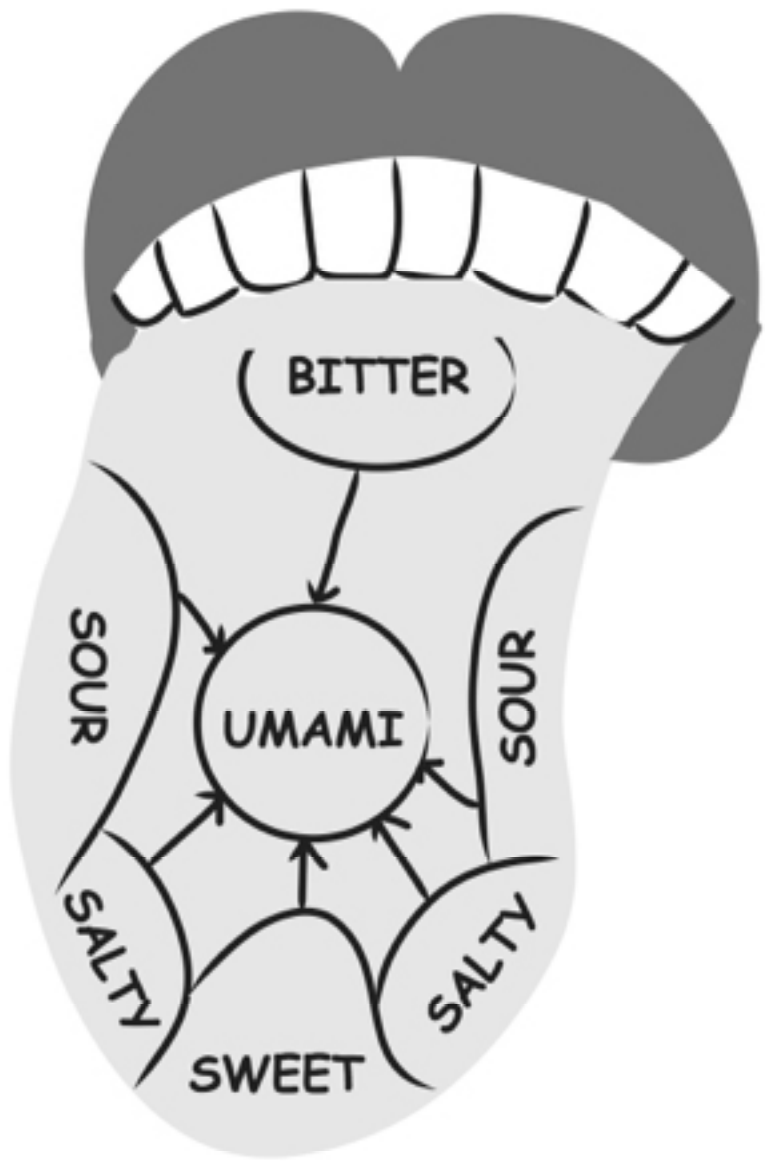


Name: _____

Pre K/Kindergarten

Tasty Tongue Coloring Worksheet

Color in the different taste buds below:



COLOR:

Green = Bitter

Yellow = Sour

Red = Sweet

Blue = Salty

Orange = Umami

GRADE LEVEL	ACCOMMODATIONS	TEKS	COMMON CORE
4th – 5th Grade	Encourage students to have an academic discussion using these sentence stems and push them to explain or elaborate on their opinions. “Why do you like that flavor?” “I like this flavor because...” After this lesson, consistently referencing flavor words when tasting food will encourage students to develop mature taste buds that are open to a variety of new things.	HE.4.1.A: Students learn about health and a variety of ways to enhance health and achieve goals. HE.B.1.F: Students learn to take personal responsibility for maintaining health. ELAR: Reading Comprehension of Informational Text: Students are expected to explain factual information presented graphically (i.e. Tasty Tongue chart). ELAR: Listening Comprehension: (27A) Listen attentively to speakers, ask relevant questions, and make pertinent comments; and (28) Students speak clearly and to the point, using the conventions of language. Students are expected to express an opinion supported by accurate information, employing eye contact, speaking rate, volume, and enunciation, and the conventions of language to communicate ideas effectively. (29) Students work productively with others in teams. Pose and answer questions with appropriate detail and by providing suggestions that build upon the ideas of others.	Speaking and Listening Standard 6: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 4-5 topics and texts, building on others’ ideas and expressing their own clearly. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion. Paraphrase or summarize portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally. Add visual displays to description.

Name: _____

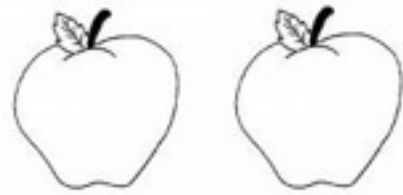
1st Grade

Tasty Tongue Math Worksheet

Lemons have a sour flavor. Count the lemons. How many are there? ____



Apples have a sweet flavor. Count the apples. How many are there? ____



Cheese has a salty taste. Count the pieces of cheese. How many are there? ____



Mushrooms have an umami taste. Count the mushrooms. How many are there? ____



When you are finished counting the foods, color them in!

Name: _____

1st Grade

Tasty Tongue Math Worksheet

ANSWER KEY

Lemons have a sour flavor. Count the lemons. How many are there? **3**



Apples have a sweet flavor. Count the apples. How many are there? **2**



Cheese has a salty taste. Count the pieces of cheese. How many are there? **4**



Mushrooms have an umami taste. Count the mushrooms. How many are there? **8**



When you are finished counting the foods, color them in!



Name: _____

2nd Grade

Tongue and Tastes Word Scramble

Unscramble the taste words to match the picture.



EESTW



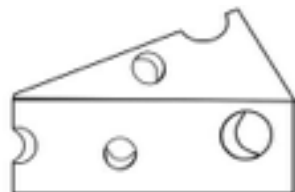
UIAMM



RSUO



IBETRT



LTSAY



Name: _____

2nd Grade

Tongue and Tastes Word Scramble

Unscramble the taste words to match the picture.

ANSWER KEY



EESTW

SWEET



UIAMM

UMAMI



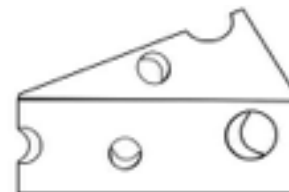
RSUO

SOUT



IBETRT

BITTER



LTSAY

SALTY



Name: _____

3rd Grade

Tasty Tongue Matching Worksheet

Match the different foods to the tastes that they represent.



SWEET

SALTY

BITTER

SOUR



Name: _____

3rd Grade

Tasty Tongue Matching Worksheet: Answer Key

Match the different foods to the tastes that they represent.



SWEET



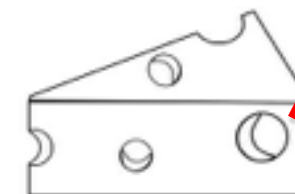
SALTY



BITTER



SOUR



Tongue & Taste Buds Worksheet

You taste with your tongue. Little bumps on your tongue, called **taste buds**, pick up the taste of your food, then special nerves carry signals from your taste buds to your brain. These little taste buds tell if food is **sweet**, **sour**, **salty** or **bitter**. You taste these foods on diferent parts of your tongue. See the picture?

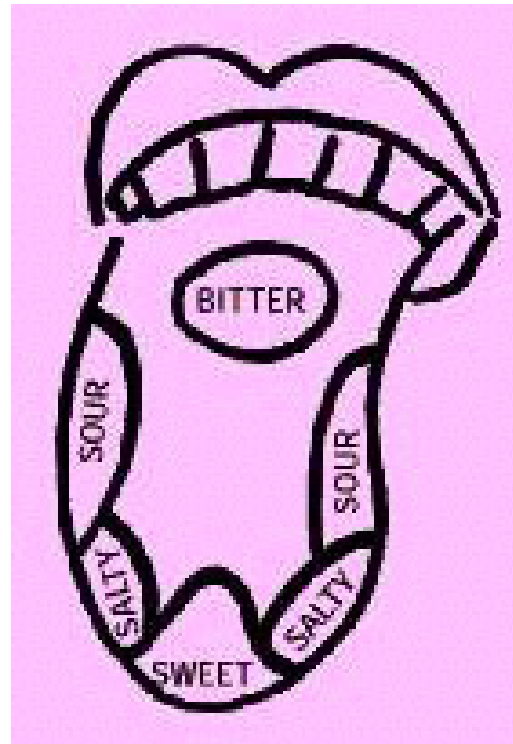
Your tongue also tells you how food feels—crisp or soft, smooth or lumpy, and hot or cold. The sense of smell also helps you to taste food. When taste and smell work together, you get **flavor**. When food is hot, the smell is stronger, for example, you might like hot pizza, but think that cold pizza is not as good.

The sense of TASTE is one of 5 senses. What are the other 4 senses?

1. _____
2. _____
3. _____
4. _____

What is your favorite taste? _____

On the back of this page, write a paragraph describing your favorite food. Use descriptive words about how it looks, how it tastes, how it feels, and how it smells.



Tongue & Taste Buds Worksheet

ANSWER KEY

You taste with your tongue. Little bumps on your tongue, called **taste buds**, pick up the taste of your food, then special nerves carry signals from your taste buds to your brain. These little taste buds tell if food is **sweet**, **sour**, **salty** or **bitter**. You taste these foods on diferent parts of your tongue. See the picture?

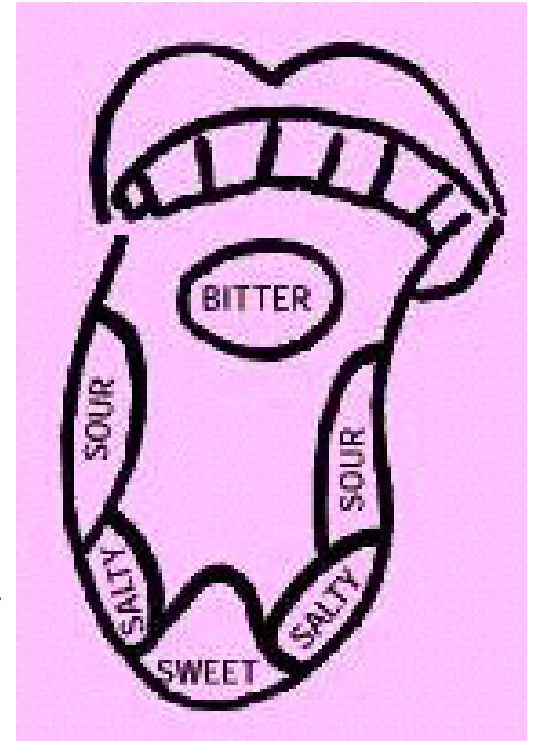
Your tongue also tells you how food feels—crisp or soft, smooth or lumpy, and hot or cold. The sense of smell also helps you to taste food. When taste and smell work together, you get **flavor**. When food is hot, the smell is stronger, for example, you might like hot pizza, but think that cold pizza is not as good.

The sense of TASTE is one of 5 senses. What are the other 4 senses?

1. **SMELL**
2. **HEARING**
3. **SIGHT**
4. **TOUCH**

What is your favorite taste? **VARIES**

On the back of this page, write a paragraph describing your favorite food. Use descriptive words about how it looks, how it tastes, how it feels, and how it smells.





Name: _____

5th Grade

Tasty Tongue Worksheet

Different foods have different tastes. Today you learned about the five tastes on the tongue: Sweet, Salty, Bitter, Sour, and Umami. Write three foods for each flavor below:

Sweet: _____

Salty: _____

Bitter: _____

Sour: _____

Umami: _____

In the space provided below, write a few sentences describing your favorite taste out of the five and why you like it the most.



Name: _____

5th Grade

Answer Key

Tasty Tongue Worksheet

Different foods have different tastes. Today you learned about the five tastes on the tongue: Sweet, Salty, Bitter, Sour, and Umami. Write three foods for each flavor below:

Sweet: Apples, Peaches, Pineapple

Salty: Mozzarella Cheese, Salt, Peanuts

Bitter: Grapefruit, Dark Chocolate, Broccoli

Sour: Lemon, Lime, Greek Yogurt

Umami: Soy Sauce, Mushrooms, Parmesan Cheese

In the space provided below, write a few sentences describing your favorite taste out of the five and why you like it the most.



FRUIT AND VEGETABLE LESSON

OBJECTIVE

Students will **identify** parts of the plant and associated fruits and vegetables

Students will **explain** how fruits and vegetables have various nutrients that contribute to overall health

Students will **differentiate** between fruits and vegetables

Students will **articulate** the importance of eating a variety of different fruits and vegetables

Grades: K - 5

Time: 30 Minutes

TEKS Alignment: HE1.1A, (P)HE2.1C, (P)HE3.1D, HE4.1A, HE5.1C

Common Core Alignment: Language Standard 6

BACKGROUND

This lesson is about fruits and vegetables. Students will learn the different types of vegetables: seed, root, stem, leaf, flower, and examples of each. Eating a variety of fruits and vegetables will help children get the vitamins, minerals and antioxidants they need to stay healthy. You will use the “Eating the Rainbow” concept to help students eat an assortment of vegetables. Eating more fruits and vegetables is a key tenant of the Seed-to-Plate Nutrition Education™ Program, so the concepts discussed here should be carried throughout future lessons as well.

PREPARATION

Materials:

Plant Parts Poster or drawing on the board

Dry erase board, chalk board or large display paper

Marker

MyPlate Display

Example of each plant part

Classroom Preparation:

Display posters where visible to students

DISCUSSION

Today's lesson is about fruits and vegetables. Vegetables fruits are two of the five main food groups. Can someone point to where you see fruits and vegetables on MyPlate? What do you notice about how much space they take up? (Half the plate!) That's right, fruits and vegetables are SO important, they should fill half your plate!

Do you know where fruits and vegetables come from? They are actually plants that are eaten as food. There are six parts of a plant. These include the **seed, root, stem, leaf, flower, and fruit**. Fruits are all in the fruit category, we'll talk about those in just a minute. The vegetables that you eat fall into one of those six categories.

Use the plant parts diagram and ask students to think of examples as you point to each part of the plant. Prompt as necessary, especially with younger students.

- Seed vegetables:** peas and black beans
- Root vegetables:** sweet potatoes, carrots, radishes, and leeks
- Stem vegetables:** potatoes, celery, bamboo shoots, and asparagus
- Leaf vegetables:** spinach, lettuce, cabbage, and collard greens
- Flower vegetables:** artichokes, broccoli, and cauliflower
- Fruits:** apples, watermelon, zucchini, green beans

Go over fruits last and ask students *Why is zucchini a fruit?? Don't most people call it a vegetable? Zucchini is technically a fruit because it contains seeds, but most people call it a vegetable because it is not sweet. We call these unsweet fruits "savory fruits."*

Just like different flowers in a garden, fruits and vegetables come in a rainbow of colors—purple, black, red, yellow, orange, green, and white—and all contain a variety of different nutrients that help our bodies to grow, battle infections, and be strong. Eating different colors of fruits and vegetables helps to provide our bodies with the nutrients it needs to grow strong. A healthy diet means that you are eating fruits and vegetables from all different color groups.

ACTION

You can usually tell what type of nutrients a fruit or vegetable has by what color it is!

*Orange and red fruits and vegetables contain a high amount of **Vitamin A**. What vegetables can you think of that are orange? Carrot! When you cut a cross-section out of a carrot what does it look like? An eye! Vitamin A helps maintain eyesight and keeps your immune system healthy. Let's name some orange fruits and vegetables (carrot, sweet potato, mango, papaya, apricots etc.) What plant parts are these vegetables?*

*Oranges are indeed orange, but they actually have more of another nutrient called **Vitamin C**. This nutrient helps keep your tissues and gums healthy, as well as helping your body heal from cuts and scrapes. If your body does not have enough Vitamin C, you can become sick more easily or have trouble getting over sickness. Fruits that are high in Vitamin C include oranges, kiwi, strawberries, and pineapple*

*Green vegetables come in many shades. There are green leafy vegetables that look just like they sound – like leaves. **Vitamin K** in leafy vegetables help keep our blood flowing through our veins. Can you think of any leafy vegetables? Examples are spinach, kale, Swiss chard, and also different types of lettuce like*

raddichio, romaine, and escarole. What plant parts are these vegetables?

*White and yellow fruits and vegetables provide powerful immune boosting nutrients, help balance hormones, and sometimes have **potassium**. Potassium is important for keeping blood pressure low so your heart pumps blood like it is supposed to. Some white or yellow vegetables are cauliflower, jicama, onion, mushrooms, potatoes. Some fruits that contain potassium include bananas, dried peaches & apricots, cantaloupe, honeydew. What plant parts are these vegetables?*

*Red and purple fruits and vegetables contain tons of **antioxidants** to rid your body of toxins. Let's name some red or purples fruits and vegetables. (Beets, rhubarb, onion, radishes, eggplant, grapes, blueberries, strawberries.) What plant parts are these vegetables?*

*Almost all vegetables have **fiber**, a nutrient that helps keep your insides clean. It's like a toothbrush that scrubs the inside of your stomach clean!*

*When you are choosing vegetables, try to eat as many different color varieties as you can. Broccoli is very healthy for you, but you aren't going to get the Vitamin A you would get from carrots or the antioxidants from beets. **"Eat the Rainbow"** to ensure you are getting a variety of vitamins and minerals.*

ASSESS

Students will be informally assessed through checks for understanding and questioning when they are asked to name the six different plant parts, types of plant colors, and examples of vegetables for plant part and color categories. (See "Background" and "Discussion"). If time allows, students can begin applying this information to their own lives by creating a plan to "Eat the Rainbow" and listing fruits and veggies to try in each color group.

WRAP UP

Let's name a vegetable from each plant part. Stem, root, leaf, flower and seed. Write these categories on the board and write the vegetable list under each as the students recall them. Or you can hold up a fruit or vegetable and ask what plant part it belongs to.

BONUS: Use the "What Food Am I?" Activity to review vegetables. Be sure to have students explain how they know a food is a certain part (i.e. How do you know this is a leaf? Because it is wide and flat).

BONUS: How can you incorporate more fruits and vegetables into what you eat?

- Suggestions**
- Put fruit on your cereal
- Take a piece of fruit to school with your lunch
- Eat fruit for dessert
- Eat Peanut butter with apple slices
- Put fresh berries on ice cream
- Use low-fat yogurt as a fruit dip
- Make a fruit smoothie (made with low-fat yogurt)
- Pack a juice box made from 100% juice instead of Kool-Aid or soda

STIRRING THE POT

Why do you think we call some fruits vegetables? In 1883 the US Supreme Court had a ruling over whether a tomato was a fruit or a vegetable due to heavy taxes on fruits at the time. By classifying it as a vegetable, there weren't heavy taxes on shipping it into the United States. The Supreme Court ruled in this way due to how tomatoes were typically used in culinary dishes. To this day, modern society still considers foods like beans, cucumbers, and peppers as vegetables, even though they are scientifically fruits. This also has to do with the fact that most people tend to think of fruits as foods that are sweet.

VOCABULARY

VITAMIN A: found in red and orange fruits and vegetables, helps eyesight, tissues and organs

VITAMIN C: found in mostly orange fruits, helps build immune system

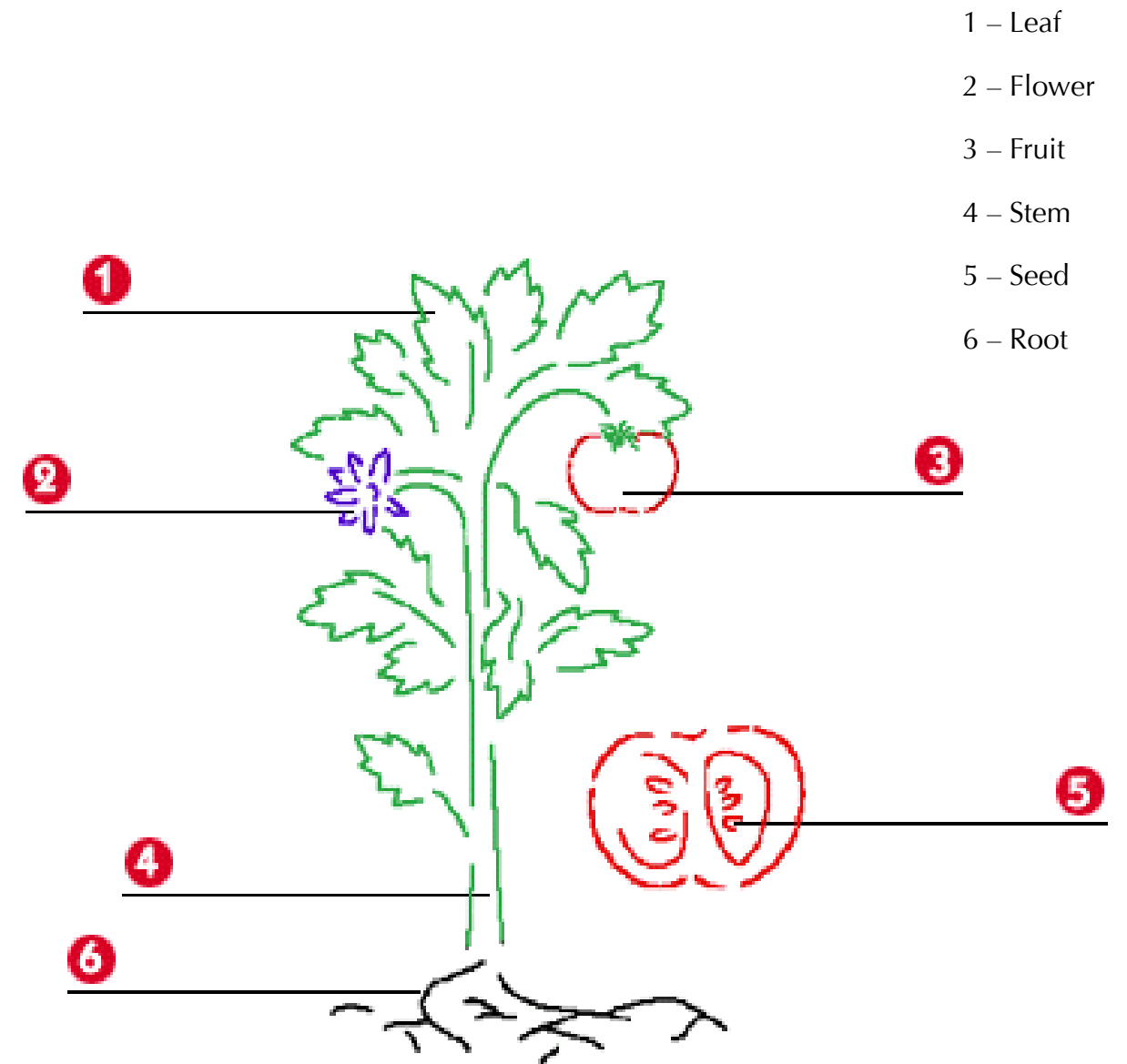
VITAMIN K: found in green leafy vegetables, helps blood system

POTASSIUM: found in white and yellow fruits and vegetables, helps reduce blood pressure

ANTIOXIDANTS: found in red and purple fruits and vegetables, helps reduce toxins in the body

FIBER: found in almost all fruits and vegetables, helps cleanse stomach and intestines

Plant Parts



GRADE-LEVEL DIFFERENTIATIONS

Kindergarten – 2nd Grade: Students should focus on knowing the difference between fruits and vegetables as well as why it is important to eat many different types. The vocabulary of the nutrients is less important than simply knowing different produce contributes in different ways to our health. Students here should be able to name plant parts and even identify which fruits and vegetables are different plant parts.

3rd Grade – 5th Grade: Students should focus on names of nutrients and their contributions to health, including Vitamin A, Vitamin C, Vitamin K, Potassium, Fiber, and Antioxidants. At this point, most students will know the difference between fruits and vegetables, except possibly savory fruits that we still call vegetables. It would be good to highlight that for these grades. Students should easily be able to identify plant parts and their corresponding fruits and vegetables, and should move on to identifying which different fruits and vegetables have certain nutrients. Students should also be able to connect the need for a healthy body with the need for nutrients (ie. if I want my heart to be strong, I need to eat fruits and vegetables with Vitamin K like spinach).

GRADE LEVEL	ACCOMMODATIONS	TEKS	COMMON CORE
Kindergarten – 2nd Grade	For younger grades, call and response and visual aides are essential. Make sure the plant parts poster is large enough for everyone to see or provide individual copies and have students point to each part as you describe it. Younger grades can also be tempted to call out answers when a plant part or vegetable is held up. To hold all students accountable, ask them to WAIT to respond and keep their answers in their head so even slower processing students can think of answers.	HE1.1A: Describe and practice activities that enhance individual health such as enough sleep, rest, nutrition, exercise, physical activity, etc. (P)HE2.1C: Identify food groups and describe the effects of eating too much sugar and fat	Language Standard 6: have students explain how they deduced that a vegetable was a certain plant part using vocabulary learned in the lesson
3rd Grade – 5th Grade	Older grades should be prompted to come up with many of their own answers. Once you tell students that purple vegetables have antioxidants, they should be able to name many others. Consider asking questions like, what might I need to eat more of if I keep getting sick? To prompt students to think about the connection between nutrients and health.	(P)HE3.1D: Describe food combinations in a balanced diet such as a food pyramid HE4.1A: Identify the benefits of six major nutrients contained in food HE5.1C: Identify foods that are sources of one or more of the six major nutrients	Language Standard 6: have students explain how fruits and vegetables contribute to a healthy diet using vocabulary learned in lesson



BALANCING MY PLATE

DESCRIPTION

In this lesson, students will explore the elements of a balanced plate, including a variety of colorful produce, as well as proper proportions of whole grains, dairy, and quality protein. To apply knowledge, students will collaborate and create a balanced plate that showcases the curriculum theme of “Eating The Rainbow.”

Time: 35 – 45 Minutes
Grades: K – 5

OBJECTIVE

Using MyPlate as a resource, students will create their own balanced meals that include fruits/vegetables, protein, and healthy fats, as well as healthy grains and dairy.

TEKS Alignment

- HE1.1A:** Describe and practice activities that enhance individual health such as enough sleep, rest, nutrition, exercise, physical activity, etc.
- HE2.1D:** Identify healthy and unhealthy food choices, such as a healthy breakfast and snacks and fast food choices.
- (P)HE3.1D:** Describe food combinations in a balanced diet, such as the food pyramid {now called MyPlate}.
- HE4.1F:** Identify the importance of taking personal responsibility for developing and maintaining a personal health plan such as fitness, nutrition, stress management.
- (P)HE5.1B:** Apply information from the food pyramid {now called MyPlate} to make healthy food choices.

Common CORE Alignment: Speaking and Listening Standard 6

BACKGROUND

Balancing My Plate will model for students how to balance daily intake of foods among the five food groups. The instructor should briefly recyle previous material, touching on a review of the five groups—fruits, vegetables, dairy, protein, and grains—and allowing for student commentary concerning the importance of a balanced diet/plate. Dialogue should be directed to include a focus on the importance of vitamins and minerals as it relates to health and diversity in nutrition.

The class should discuss the healthy choices from each food group beginning with a demonstration on energy and how it is positively affected by healthy foods. Key emphasis should be placed on **balance**—

eating in moderation from all five food groups.

PREPARATION

Materials:

- MyPlate poster
- Vocabulary terms and definitions
- MyPlate activity sheet
- Food picture cards or food examples from each food group
- One 3x5 index card per student

Classroom Preparation:

- Vocabulary words visible to the class
- Cover food group pictures if they are visible so students can recall them from memory
- Distribute food cards to each station or real foods

DISCUSSION

To set the stage for today's lesson, instruct students to jump up and down for 30 seconds, giving them a countdown to keep things moving. Encourage them to look around the room at all the energy in motion. End the jumping session and ask, "How were you able to do that?" "What do you need in order to run, jump, play, climb?" (energy) "What gives you energy?" (food) "Does all food give you the same energy?"

Let's see what you think. We are going to compare different foods. Hold up an unhealthy food and a healthy food (ie. candy bar and apple). Which of these do you think is better and healthier for your body when exercising? Tell me why? How many of you pause to think about what you are eating before you actually take a bite? How many of you consider whether something is healthy or whether you could find a healthier option?

You know, food is fuel. The same way we put gas in a car to keep it running, we put food in our bodies to keep ourselves healthy/running. The quality of fuel/food you put in your body will determine how well it functions. Healthy people, including children, eat more healthy foods and less of unhealthy foods. AND, they eat a variety of foods from the food groups. It is important to balance foods from each group when making a meal, and today we are going to practice balance.

ACTION

Let's review. **Ask the students to recall the five food groups and write them on the board.** Then, show the class the MyPlate poster and ask students to recall foods from each group. As students name foods from each group, write them under the food group name on the board. Bonus: Can they recall recipes the class has made with these different foods?

Interactive Activity: Using the food picture cards or real foods, have the students work in groups to create their own version of a balanced meal. There are picture cards for common dinner and lunch food items. See what they come up with, and then have groups share their creations with the class. Ask

each team which food cards they chose not to include and why?

After each group has presented their best attempt at a balanced meal, allow other groups a chance to provide feedback. Whole class feedback: Give each student a 3x5 index card with "balanced" written on one side and "unbalanced" written on the other. After each presentation, ask the students to vote by raising their cards to display either balanced or unbalanced. Select individual students and ask them to elaborate on their vote choice.

Use student comments as a way to reinforce tips for creating a balanced meal, which should ideally contain a healthy, lean protein; vegetables; low-fat dairy; whole grains products; and fruit either as dessert or a side.

Calorie and Nutrient Density. *Some foods like french fries, soda, and candy contain a lot of calories, but don't have desirable nutrients such as vitamins, minerals, and antioxidants. They are considered to be calorie dense because they have more calories than nutrients. These are ineffective fuel for your body. Over-consuming calorie dense foods slows down the body's processes and leads to excess weight gain.*

Other foods may have a lot of calories but also contain high quality nutrients, such as olive oil, whole grain pasta, or lean chicken breast. They are considered to be nutrient dense due to a high amount of vitamins, minerals, and other nutrients. Fruits and vegetables are among those considered to be nutrient dense and are excellent fuel to keep your body running efficiently.

Before we end today's discussion about balancing your meals, let's briefly go over what's important about each food group. Think back to the previous lessons in which we learned about the different food groups and what makes them unique in terms of building and maintaining a healthy body.

First, let's discuss fruits and vegetables. *Can anyone name the different color groups? They are orange/red, green, white/yellow, and purple/blue/black. Can anyone remember what's unique about most orange and red vegetables and fruits? They contain beta carotene and vitamin A, which helps our eye-sight and immune system. Does anyone remember the cruciferous vegetable group? These vegetables are often green (sometimes white or purple) and contain an antioxidant that helps prevent cancer. What are the cruciferous vegetables? (Broccoli, cabbage, cauliflower, brussel sprouts, collard greens, rapini.) Why are berries an important fruit? (They contain many antioxidants in a very small package – you get great nutrition in a small package!).*

Let's talk about dairy products. *What is the special nutrient in dairy foods? (calcium) Can anyone remember what makes yogurt and kefir unique? (They are fermented and contain probiotics, "friendly" bacteria which are good for digestive health). What does Calcium do for our bodies? (Helps to build strong bones.) By the way, leafy greens are an excellent source of calcium. Can anyone name an example of a leafy green? (How about one that is growing in our garden?)*

The protein food group contains foods that are high in protein. *Does anyone remember what amino acids are? (Building blocks that make protein, which in turn make muscle fibers that are used for building body muscle and organs). What is the special nutrient found in red meats that helps our body carry oxygen in the blood? (Iron). What are some vegetarian sources of iron? (lentils, beans, spinach, seeds, tofu, potato skin, dried apricots, raisins, wheat germ, and more.)*

Grains *are important because they contain a lot of _____(which vitamin?) when whole and unprocessed? The answer is B vitamins! B Vitamins help your body turn foods you eat into energy. Why is it important to eat whole grains? (Because processed grains remove the hull, germ, or outer layer – the*

part of the grain where the B vitamins and other nutrients are stored.) Bonus: Who can name the different parts of a wheat grain? (Bran, endosperm, bran) Does anyone remember which part of the wheat grain contains the B vitamin? (Germ)

ASSESSMENT

Students will be informally assessed at the beginning of the class discussion when they are asked to name the five food groups and foods that fall into each. The instructor will write these on the board as students call out foods. (See “Discussion.”)

Students will be informally assessed as they create a balanced meal with their group. Following the activity, the students will review their meal to make sure it represents a balanced meal and learn tips for how to create a meal that contains a mixture of foods from different food groups.

Students will be informally assessed after each presentation as they vote by raising their cards to display either balanced or unbalanced. Individual students will have the opportunity to elaborate on their vote.

Students will be formally assessed via completion of the worksheet, which can be completed in class or at a later time with their homeroom teacher as a graded assignment to further reinforce topics covered.

WRAP UP

What are some examples of foods you commonly eat in a restaurant or at home? Write the names on the foods on the board. Where do these fit in the different food groups? Which of these are good food choices? What changes could make them healthier choices?

STIRRING THE POT

Did You Know: *It is important to eat from each food group in proportion to the others, like MyPlate. Each food group provides important and beneficial nutrients to help you stay healthy. What do you hear on TV about food groups? Which advertisements or commercials tell you what is healthy to eat? Give an example of false advertising in which a company leads you to believe a product is healthy when in fact it is not?*

Challenge: *To get a wide variety of **vitamins, minerals, and antioxidants**, eat fruits and vegetables of different colors – like the colors of a rainbow. See how many colors you have on your plate during your next meal. Can you create a meal with each color of the rainbow?*

VOCABULARY

Balance: To keep all things equal; in terms of balancing nutrition, it means to keep all parts of the food groups in proportion to the others.

Eat the Rainbow: A term that refers to eating a variety of fruits and vegetables groups from the different color groups.

Vitamins: Organic substances found in foods, and in high abundance in fruits, plants, and whole grains. Certain vitamins – such as Vitamins A, C, and E – have antioxidant potential and can benefit our health.

Minerals: Inorganic elements found in foods – such as calcium, iron, magnesium, potassium, or sodium – that are essential to the healthy functioning of the human body.

Antioxidants: A chemical compound or substance that may protect body cells from damage – such as chronic disease, inflammation, or cancer – caused by the oxidative effects of free radicals.

Caloric Sweeteners: Sugars, which can be natural or unnatural, that are added to foods and drinks to increase their sweetness. One example of an unnatural caloric sweetener is High Fructose Corn Syrup.

Artificial Sweeteners: Manmade chemical compounds that replace calorie sweeteners in foods and drinks with little or zero calories. These sweeteners can have negative effects on the body since they are unnatural.

Calorie Dense: Refers to foods that contain a lot of calories without many healthy nutrients.

Nutrient Dense: Refers to foods that contain many healthy nutrients, such as healthy fats, vitamins, minerals, complex carbohydrates, and lean

GRADE-LEVEL DIFFERENTIATIONS

Kindergarten-Grade 1: In place of group work, presentations, and voting – kindergarten students can work in learning centers for each of the food groups. At each center, students can see, touch, feel, smell, and even taste a sample of each group. From each center, students can select an index card picture of their favorite food from that category. At the end of the center rounds, students can glue the cards they have collected to a paper plate. As plates are completed, students can attach their plates to a “banquet table bulletin board” and create a Rainbow Feast.

Grades 2-3: After visiting food group centers, students can work in groups to create their plates and then attach to the banquet table bulletin board. When the table is assembled, the teacher can lead a discussion on which plates are balanced and which have visual appeal, look appetizing, etc. Then students can vote on their favorite plate.

Grades 4-5: Students are able to collaborate and make class presentations according to the lesson plan.

GRADE LEVEL	ACCOMMODATIONS	TEKS	COMMON CORE
Pre-K – Kindergarten	Reinforce key ideas in multiple ways, using verbal and visual cues. Model appropriate discussion rules and communicate expectations upfront. Allow students to be active and hands-on. Encourage students to use their words to communicate ideas. Ask them why a certain food is their favorite. Check for understanding using thoughtful questions and simple response techniques.	HE.K.3.B: Plan a healthy meal or snack HE1.1A: Describe and practice activities that enhance individual health such as enough sleep, rest, nutrition, exercise, physical activity, etc. K&S.5.c: Identify and sort pictures of objects into conceptual categories	Speaking and Listening Standard 6: Participate in collaborative conversations with diverse partners. Follow rules for discussions. Confirm understanding by asking and answering questions. Add visual displays to description.
1st – 3rd Grade	Encourage students to elaborate on other’s comments. Recycle flavor references during discussion, pairing balanced plate with balanced flavors and ingredients. Ask how to achieve umami. Allow students to tweak and offer suggestions or alternatives. Encourage personal sharing of recent healthy meals. Consistently recap and debrief for the students in order to model synthesis and aide in students’ ability to process and digest key concepts. Ask students to distinguish main ideas from supporting details presented.	HE2.1D: Identify healthy and unhealthy food choices, such as a healthy breakfast and snacks and fast food choices. (P)HE3.1D: Describe food combinations in a balanced diet, such as the food pyramid {now called MyPlate}.	Speaking and Listening Standard 6: Participate in collaborative conversations. Confirm understanding, recount, describe information presented. Build on others’ talk by responding to comments of others. Follow rules for discussions. Confirm understanding by asking and answering questions. Add visual displays to description.

GRADE LEVEL	ACCOMMODATIONS	TEKS	COMMON CORE
4th – 5th Grade	Encourage students to have academic discussions in multiple, leveled contexts. Offer language support, direction, and focus as needed. Encourage students to elaborate on other’s comments. Give students opportunities to meal plan and articulate how their plate represents their own taste and flavor preferences. Have them compare and contrast their palate and healthy choices with others.’ Push them to offer alternative suggestions to one another to make a dish healthier. Encourage students to invent new recipes and make variations. Check for knowledge frequently and in multiple ways. Give multiple opportunities for students to practice summary and debrief.	HE4.1F: Identify the importance of taking personal responsibility for developing and maintaining a personal health plan such as fitness, nutrition, stress management. (P)HE5.1B: Apply information from the food pyramid {i.e. MyPlate} to make healthy food choices.	Speaking and Listening Standard 6: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 4-5 topics and texts, building on others’ ideas and expressing their own clearly. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion. Paraphrase or summarize portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally. Add visual displays to description.









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