



Lesson #3 MyPlate! My Choice!

LESSON OUTLINE

1. **Warm-Up/Reflect** (3 min.)
2. **Food as Energy Discussion** (5 min.)
3. **MyPlate Discussion** (15 min.)
4. **Sample Meal Activity** (8 min.)
5. **Personal Plate Reflection Discussion** (5 min.)
6. **Closure** (3 min.)

MATERIALS

PROPS:
None

DISPOSABLES:
• Paper plates (1/
student)

LESSON PREP

- Review “MyPlate Diagram” and “Build a Healthy Meal” tip sheets (see end of lesson).
- Write vocabulary words on board
- Pass out paper plate to each student as they enter the room

VOCABULARY

calorie, nutrient, macronutrients,
micronutrients, MyPlate, empty calories

PHS OVERARCHING ESSENTIAL QUESTIONS

- *What does it mean to eat healthfully and be physically active, and why is it important?*
- *How do culture, experience and environment affect one’s health?*
- *What goals do I have to improve my health?*

GUIDING QUESTIONS AND CONCEPTS

1. Humans need food for energy and food is measured in calories.
 - How do the choices I make affect the amount of energy in and out of my body?
 - Why do different people need different amounts of energy?
2. All food has calories.
 - How do I make sure to get all the nutrients I need in my calories each day?
3. Eating from all food groups is important.
 - How do we decide what to eat?
 - How do we use the food groups to build a balanced meal?

LESSON OBJECTIVES

Students will be able to...

1. Describe and calculate energy in and energy out.
2. Use MyPlate to describe a balanced meal.
3. Define food groups and what they include.
4. Assess their personal dietary choices and reflect on ways they can include more nutritional variety.



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LESSON RATIONALE AND PURPOSE

In this lesson students will begin to explore the relationship between energy in and energy out and then use ratio and rate reasoning to solve a real-world mathematical problem about food consumption and energy expenditure. Students will convert simple fractions on the MyPlate diagram to percents. They will walk through the different components of MyPlate, and learn valuable information about the food groups and nutrient benefits of each. Students will evaluate a meal to identify the appropriate food groups, and then utilize information learned to assess their own food choices and ways to improve to meet MyPlate guidelines.

BACKGROUND INFORMATION

Children and adults alike frequently make food decisions based upon factors unrelated to what their body needs. Cost, convenience, and texture/flavor preference guide most people's decisions. Through MyPlate, students will learn that all food provides calories, but food provides different nutrients for the body depending on the food group. Children learn about food groups from a young age, but are rarely taught what these groups do for their bodies, health and wellness. This is both important and valuable information. This lesson links food groups to their physiological benefits and to the activities students engage in daily.

RESOURCES

1. Choose MyPlate
www.choosemyplate.gov

LESSON EXTENSIONS

Available at the end of the lesson:

1. **Five Food Group Wrap** *Food Demonstration (5-15 min.)*
2. **Food Group Sticky Note Activity** *(76 min.)*
3. **Energy In—Energy Out Activity** *(1 min.)*



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WARM-UP/REFLECT (3 min.)

(Materials: paper plates)

Pass out paper plates to all students as they enter the classroom.

- Welcome! Who can tell me what we learned during our last PHS lesson?
 - Answer: food choices are learned; culture, region, climate, and traditions impact our food choices; families have their own food traditions.
- Let's get refreshed and our hearts pumping with a brain break! *Lead the class in 90 seconds of one of the following movements or ask a student to lead* (jump up and down; jumping jacks; shoot baskets in place; run in place; swing a bat; do squats).
- Everyone have a seat and let's get started!

FOOD AS ENERGY Discussion (5 min.)

- Last week we discussed food culture and how it affects our choices. Today we are going to discuss what we choose to eat within our food culture. *Please take one minute and write down one of the meals you ate yesterday on the back of your plate. It can be lunch or dinner. Be sure to include all components of the meal including condiments and what you drink. For example, if you have a hamburger, include all the toppings on your hamburger like cheese, tomato, and lettuce. We will come back to your meal after we have a discussion about energy and calories.*
- What type of energy do humans burn?
 - Answer: Food energy
- How do we burn it?
 - Answer: Through doing activity.
- All types of energy come in units. What unit do we use to measure heat energy?
 - Answer: Heat energy is measured in degrees.
- What unit do we use to measure electrical energy?
 - Answer: Electrical energy is measured in watts.



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- Does anyone know what unit we use to measure food energy?
 - Answer: Food energy is measured in calories.

Calorie: a unit of measurement that tells us how much energy a given food provides.

- Example: A medium apple has 85 calories, 2 Tbsp. of peanut butter has 188 calories.
- Calories are neither good nor bad. They are simply a unit of measurement.
- For healthy bodies, we need to maintain an energy balance. The calories from what you eat and drink is ENERGY IN. What you burn through physical activity and daily activities is ENERGY OUT.
- What things do we do that burn calories?
 - Answer: You burn calories just by breathing air and digesting food. You also burn a certain number of calories (ENERGY OUT) through your daily routine such as walking to the bus stop and taking the stairs.
- If we don't balance ENERGY IN and ENERGY OUT, we end up either with not enough energy to feel good and be active, or with too much energy which our body must store as fat. Your ENERGY IN and OUT doesn't have to balance every day. It's having a balance over time that will help you feel your best!
- People who are more active generally need more energy, but we also burn energy differently depending on gender (male or female), if we are tall or short, our age, our race and ethnicity, and even our genes or characteristics we inherit from our parents.
- Most kids your age need about 1,600-2,400 calories every day depending on your age, gender, and physical activity levels. Remember that everyone is different. *Write "1,600-2,400 calories a day" on the board.* We can consume and burn those calories in all different ways. Finding our own balance is the key.



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MYPLATE Discussion (15 min.)

In this section of the lesson you will teach students about MyPlate by creating a visual on the board as students make a MyPlate diagram on their paper plate. You will then review the food groups by referencing the “MyPlate Diagram” found at the end of the lesson.

- Now that we know how much energy we need, let’s talk about what foods we can choose to get that energy. It is best to get most of our calories from foods that are dense in nutrients such as fiber, protein, vitamins, and minerals.

- What is a nutrient?

Nutrient: a substance obtained from food that is used within the body to promote growth, maintenance, and repair. Nutrients can be broken down into two general categories: macronutrients and micronutrients.

Macronutrients: nutrients that are required in larger amounts by the body. Carbohydrates, proteins, and fats are all macronutrients.

- Carbohydrates provide energy for the body.
- Proteins help to build and restore muscles and cells within the body.
- Fats provide stored energy for the body and protects our organs and cells.

Micronutrients: nutrients that are required in smaller amounts by the body. Vitamins and minerals are examples of micronutrients. We’ll talk more about these in the Rainbow of Color lesson.

- Has anyone heard of MyPlate?

Draw a large circle on the board with a small circle on the side to represent dairy.

MyPlate: is a tool we use to help us figure out what we should eat and in what amount. Eating a balanced diet from each of the five food groups provides important nutrients for your body.

- I need someone to help finish our MyPlate. If I wanted to divide this circle into fourths, how would I do it? *Ask for a volunteer.* What percent is each section equivalent to?
 - Answer: 25%



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Direct students to use the front of their plates and copy the diagram from the board onto their plates. They can draw the small circle in one of the sections on the left side of their plate to represent dairy.

- What are the different food groups? *When they answer correctly, label the sections of the circle, as shown on the "MyPlate Diagram". Tell the students to label their plates. The small circle will be dairy.*
- What foods can we name in each food group? *Help students to name foods within each food group. Use the "MyPlate Diagram" and "Talking Points" handouts for additional information about different nutrients each food group provides.*
- What food group does soda, candy, chips, and ice cream go in?
 - Answer: These foods do not count towards our balanced plate because they don't have enough nutrients for the amount of calories they provide. These are called empty calories.

Empty calories: foods which supply calories but very little nutrients.

Some examples of "empty calories" are soft drinks, fruit punch, candies, cakes, cookies, pies, ice cream, chips, butter, and stick margarine.

Draw a box next to MyPlate labeled "Empty Calories"

- Does anyone have an example of an empty calorie food you like to eat? *Take a few examples from students.*
- Eating these foods in small quantities once in awhile is okay as long as most of your meals incorporate the five food groups and most of your snacks include a fruit or vegetable with a protein source (apple slices with peanut butter, carrot sticks with hummus, greek yogurt with banana, etc.).
- In summary, what percent of your plate should be made up of fruits and vegetables?
 - Answer: 50%
- What percent of your plate should be made up of grains?
 - Answer: 25%



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Optional math problem:

- Sometimes it helps to think of fruits and veggies as one big group and remember this group makes up half your plate. If I wanted to express the 50% fruits and vegetables and 25 % grains on MyPlate as a ratio how might I do that? **prompt students if necessary*—say: what is the ratio of fruits and vegetables to grains? Answer: ratio of 2:1
- Why can't I just eat fruit? Why do I need to eat from the five food groups?
 - Answer: Each food group provides your body with different nutrients.
- Eating a variety of foods within each of the food groups is also very important since each food item provides different nutrients. Although both are classified as protein, some of the nutrients you receive from chicken are different than the nutrients you receive from beans. The more you can eat different types of fruits, vegetables, grains, protein, and dairy sources throughout the week, the better nourished your body is likely to be!

SAMPLE MEAL Activity (8 min.)

Use the following sample meal to demonstrate where combination and empty calorie foods are found in the MyPlate food groups.

Write on the board:

Beef burrito with cheese, lettuce, tomato, and sour cream
Rice
Soda

- I have written a sample meal on the board. As a class we need to analyze it using our MyPlate tool. Who can tell me which food groups are found in this meal?

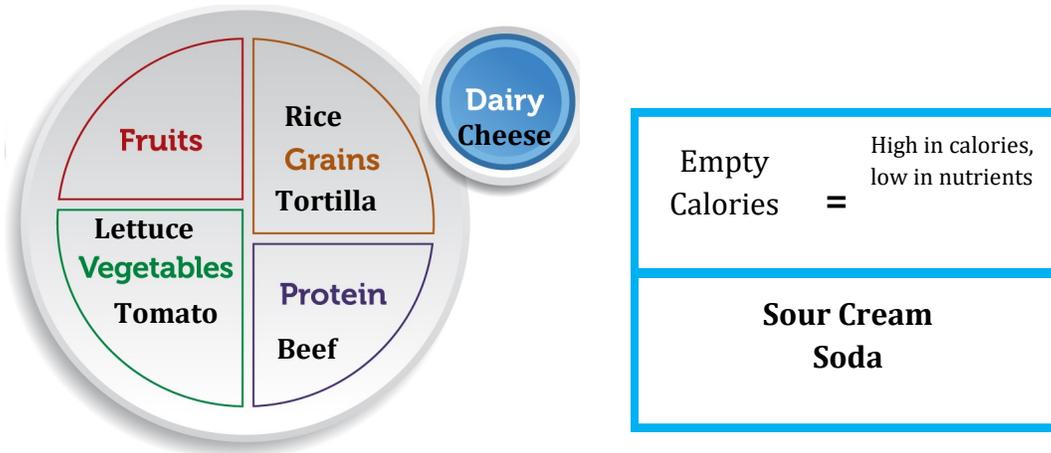
Guide students through selecting the correct food group for each component of the meal (see diagram on next page). Once the student volunteers have correctly written all the meal components on the MyPlate on the board, mention the discussion points (listed on the next page).



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Meal Sample Discussion Points:

- Tortillas and rice are both grain products. You could choose a whole grain tortilla and brown rice for a healthier grain choice.
- Beef is a protein. Examples of other lean protein options for this meal could be chicken, turkey, or beans. You could also use eggs and make a breakfast burrito!
- Lettuce and tomato are great vegetable additions. Make sure veggie choices fill a quarter of your plate. Other great additions might be onions, diced cucumber, corn, or slices of avocado.
- What food group is missing on our plate? How could we include some fruit in this meal? Could you add grapes, pineapple, or watermelon to your plate to add some great sweetness?
- Sour Cream is in the “Empty Calories” box because it does not contain enough nutrients to place it into the dairy food group (low in calcium & protein). Using greek yogurt instead could be a great switch to make it healthier while still giving great creamy texture and taste.
- Soda is in the “Empty Calories” box because of the added sugar and calories with no nutritional value. Drinking water, low-fat milk, or 100% juice would be a healthier choice.

PERSONAL PLATE Reflection (5 min.)

- Now think about the meal you wrote on the back of your plate. Take each item from your plate and break it down into the food groups like we did with our sample meal. **Give students a few minutes to complete their meal analysis and then lead a whole group discussion.
 - How can your meal be more balanced?
 - Are any of the food groups empty? If so, fill in something you could eat from this food



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group.

- Is half your plate fruits and vegetables? If not, what do you need to change about your meal?
- Circle any whole grain foods on your plate. Write in one you might try if you didn't include any.
- Did you include too many empty calorie foods? Can you consider choosing these less often? No one eats perfectly all of the time, but everyone can take small steps to make healthier choices throughout their day. Small changes can lead to a great impact!

Ask a few students to share how they could add a food group into their meal or make a better choice within the food group.

Closure (3 min.)

- Consider using a whole-group discussion, small- to whole-group discussion or think-pair-share to review important lesson information.
 - What can you do each day to make sure that your body gets all the nutrients it needs to perform at its best?
 - ⇒ Eat a balanced diet with each meal consisting of foods that represent each of the different food groups.
 - Which of the food groups do you think you need to include more of to make sure your meals are balanced?
 - What is the one message you will take from this lesson and share with someone else?



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Lesson #3 MyPlate! My Choice! *Extensions*

FIVE FOOD GROUP WRAP UP *Food Demonstration (5-15 min.)*

(Materials: Whole wheat tortillas, turkey, Havarti cheese, cucumbers, apples, small paper plates, cutting boards, toothpicks, gloves, wipes/paper towel)

- *Have students cut up vegetables and fruit. Have students make plates with half a tortilla, half a slice of cheese and half a slice of meat. Tell students they must include all ingredients in their wrap, and have them assemble their wrap.*
- *Pass out recipe cards and emphasize that the wrap contains foods from all of the food groups that were discussed today.*

FOOD GROUP STICKY NOTE *Activity (76 min.)*

(Materials: 5 sticky note pads- each a different color)

Directions: Ask for students to volunteer a lunch or dinner for an example. Use up to 6 examples. Write meal example(s) on the board next to MyPlate. Make sure students name all the groups in combined foods (e.g., If a student says they ate pasta, ask if the sauce was made with tomatoes? Meat? Alfredo?

- *If we know what food groups we need and how to get them, let's see how we are doing. Let's use the meals we wrote down on our plates at the beginning of class.*

Select five volunteers to "color code" the MyPlate circle using the sticky notes that represent the food groups in the student's meal example(s). Give each volunteer one food group to identify on the board. Put pre-marked sticky notes on the board to remind the students which color represents which food group:

Pink=Fruit

Blue=Dairy

Purple=Protein

Green=Vegetable

Yellow=Grain

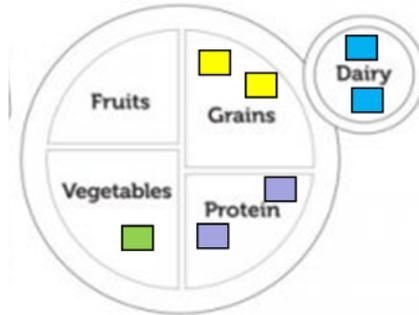
- *Our volunteers are going to "color-code" our MyPlate diagram by food group using our meal. Each color of sticky note represents a food group. Please place a sticky note on our MyPlate for any meal item you think fits within your food group. **IF** a food has lots of extra fat or added sugar, we will not count the food as a part of the food group and you should write it in the box labeled "Empty Calories" (see board example).*



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VISUAL

Empty Calories:
Pepperoni (fat)
Coke (sugar)



Meal Examples:

Chicken Alfredo Pasta
with Broccoli

Pizza with Pepperoni
and a coke

Confirm that the volunteers have selected the correct food groups for each meal based on the MyPlate food groups, and lead the class in a discussion using the following questions:

- What food groups do we see the most of?
 - Answer: (Facilitator note: grains and proteins are usually over-represented, meaning that they take up more than half the sticky notes on the board)
- What food groups do we see the least of?
 - Answer: (Facilitator note: we usually do not see many fruits and vegetables as part of the students' meals)
- What about the "Empty Calorie" foods? Why should we not eat these foods often?
 - Answer: Empty calorie foods are high in sugar and fat, and provide few nutrients.
- Looking at these meals, are there ways we can increase the fruit and vegetables on our plate? MyPlate tells us to make HALF our plate fruits and vegetables!
 - Example: add bananas onto our cereal, have a salad and a piece of fruit with our pizza, have another vegetable at dinner or include some fruit as a dessert.

ENERGY IN- ENERGY OUT Activity (5 min)

(Materials: ENERGY IN cards and ENERGY OUT cards (located on the Portal), tape)

Write ENERGY IN on the board and tape the ENERGY IN cards in a column underneath, with the calorie count folded underneath the picture so it is not showing. Write ENERGY OUT on the board and tape ENERGY OUT cards below with the calories burned folded underneath.

- Each day we need to select foods that provide enough energy and nutrients to walk, breath, run, think, and play.



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- We are going to demonstrate how our food and activity choices might balance out! I need two volunteers. My first volunteer I will call “ENERGY IN!” My second volunteer I will call “ENERGY OUT!” ENERGY IN volunteer: please select a food from our list that you would like to use as an energy source! Once you have selected the food, please unfold the card and show us what energy and nutrients we receive.
 - Example: Volunteer selects the McDonald’s fry and reads the calories and information on the card flap.
- ENERGY OUT volunteer: please select an ENERGY OUT activity to try to balance our ENERGY IN choice.
 - Example: Volunteer selects school work and reads the calories burned on the information card.

On the board, record student choices and the negative or positive energy balance remaining. After the first set of cards, write the amount of energy remaining. If it is positive, ask the ENERGY OUT volunteer to pick another activity card and record the new total. If it is negative, ask the ENERGY IN volunteer to pick another food card.

****NOTE:** The purpose of the activity is not to ultimately spend all the calories but to show that each time we consume food or do activity, we are changing the balance.

- Follow up questions:
 1. Did the amount of energy we took in balance with the amount of energy we burned with our activity?
Answer: Yes!
 2. If you have energy left over, can it be put towards another activity?
Answer: Yes!
 3. If you don’t have enough energy for the activity would you be hungry and need to select another source of food for ENERGY IN?
Answer: Yes!
 4. If you take in more energy than you burn through activity, what happens to the excess energy over time? (REMEMBER we don’t need to balance it EVERY DAY, but over time our energy in and out should balance)
Answer: We eventually store this energy as fat.

Go through as many cards as time permits.