

## **Lesson: Portion Distortion**

### **Goals:**

- Students will understand the difference between a portion and a serving.
- Students will learn the importance of managing portion sizes to maintain a healthy weight.
- Students will understand strategies for managing portion sizes when building snacks and meals.

### **Supplies Needed:**

- 5.1\_LTA\_Portion Distortion Food Cards
- 5.1\_LV\_Portion Distortion
- 2 - 8.5" Diameter Plates
- 2- 11" Diameter Plates

### **Optional Supplies for Activity:**

- Dried Pasta Noodles (macaroni, rotini, or penne)
- Deck of (normal) Playing Cards
- 1 Set of Measuring Cups
- 5 Clear Small Plastic Bowls (5" diameter)
- 5 Clear Large Plastic Bowls (8" diameter)

### **Background:**

Portion and serving size are different. Serving size is set by the FDA and is called RACC, or the Recommended Amount Currently Consumed. RACCs were set in 1990 when the Labeling Laws were finalized. We still use the same serving sizes, or RACCs, that were set back then. There are some exceptions to standard serving sizes, such as suggested serving sizes for newer foods to the market and for one package-one serving foods.

**Lesson:**

How is everyone today?

For those that are feeling great; tell me what you have been doing to feel this good. (*Eating Go Foods, getting 10-11 hours of sleep, exercising, staying hydrated*)

Great! It is a lot to remember everything you should be doing to feel good, but the more healthy habits you establish, the easier it becomes. Before you know it, you will not even have to think about it.

Today we're going to talk about a serving of food versus a portion of food.

A serving size is a set or measured amount of food or beverage. Who can tell me what the serving size is for Breyers Ice Cream? (*1/2 cup-hold up the 1/2 cup measuring cup*) **(Show Slide 1.)** A portion is the amount of food or drink consumed in one sitting. For example, if you scoop yourself a bowl of ice cream you may take more or less than 1/2 cup unless you measure the amount you take.

Serving sizes have been constant for over 20 years; however, portion sizes have significantly increased in the last few decades. Consuming too much food can lead to obesity and increased risk for diabetes and heart disease. All foods can be enjoyed in moderation, but it is important to keep in mind your portion size to maintain good health.

**(Show Slide 2.)** To see how portion sizes have increased over the years, let's look at the size of sodas. When McDonalds first opened in 1955, they offered one drink size and it was 6-oz. Six ounces is half the size of a can of cola. If you go to McDonald's today and order a soda, the kid's size is 12 ounces, the size of a can, and the large soda is 32 ounces!

Look at the calorie content of these different sizes. While it may seem like you're getting a deal by ordering a larger size, you're getting a whole lot more than you bargained for.

**(Hold up a teaspoon)** This is one teaspoon, or 4 grams, of sugar. A 12 oz soda is the size of an average can of soda, which contains 110 calories and 28 grams of sugar. How many teaspoons is that? (*7 teaspoons*)

**(Show Slide 3.)** That's a lot of sugar! In this slide one sugar cube equals one teaspoon of sugar.

It may be hard to believe, but some soda bottles, like a 34 oz Coke, have the equivalent of 27 teaspoons of sugar!

A calorie is a unit of energy. Let's demonstrate how much extra energy you get if you drank the large soda vs. the small soda. I want everyone to stand up. Now jump up and down, until I say stop **(Count for about one minute.)**. Okay, stop! You would have to jump for approximately 35 minutes to burn off the extra calories in one large soda vs. the small.

**(Show Slide 4)** Here are some other popular drinks: 100% grape juice, 7up, Powerade, Vitamin Water, and Orange Juice. They have the amount of dry sugar next to them that is found in that drink. How many of you drink one of these types of beverages? Did you notice anything that surprised you?

What are some alternative beverages that you like that don't have all that sugar?  
*(Water, unsweetened ice tea, unsweetened seltzer water with a splash of 100% juice, low-fat milk)*

**(Show Slide 5.)** Let's look at some different examples of how portion sizes have changed. Here is a picture of what a bagel looked like 20 years ago. This bagel is about 140 calories. Here is what a bagel looks like now **(Point to picture.)**; it is 350 calories – more than double the calories. The difference of 210 calories is enough energy to keep you jumping rope for 20 minutes.

As you can see, portion sizes have gotten significantly bigger in the last 20 years. As a result, people have gotten bigger too! How do you feel when you eat big portions?  
*(too full, uncomfortable, tired, sleepy)* We must remember to eat to satisfy our hunger but not to get too full. If we satisfy our hunger and eat just the right amount we will have great energy during the day. Does anyone remember what energy balance means? *(Energy in should equal energy out.)* We need to balance what we eat with physical exercise or movement. If we have an active day we may find our portions are a little bigger that day. If we have a less active day we find our portions may be smaller to keep us from getting too full and uncomfortable. In order to maintain a healthy weight, you need to balance the amount of energy you put in your body with the amount of energy you use through moving, exercising along with the energy your body uses internally to maintain body temperature, digest your food, and grow. Walking, biking, dancing, swimming are all great ways to burn extra energy.

When determining an appropriate portion size for snack foods, a good rule is to not eat more than what can fit in two cupped hands. Everyone hold out your hands, does that look like the amount of food you normally eat for a snack? It is easy to eat too much when you eat straight out of a bag or in front of the television. Bags and boxes are

usually bigger than our hands are. It is best to put an allotted amount of food on a plate or in a bowl, and put the remainder of the snack bag or box back in the pantry.

Can you think of other ways to manage snack portion sizes?

*(Use a plate or bowl-don't eat directly out of the bag, read the nutrition labels, sit and eat rather than "eating on-the go", use smaller plates or bowls, split a snack with a friend.)*

Where do we find the serving size? *(On the food label/nutrition label)*

**(Show Slide 6.)** Right! All packaged foods are required to carry a nutrition label

The nutrition label will tell you the amount of energy or calories in one serving. This is the part that you need to read carefully. Many snack foods contain more than one serving. For example, even a small bag of potato chips may contain up to 4 servings. So if your portion is the entire bag, you have to multiply the 155 calories in the serving size by 4 since there are 4 servings in the bag. How many calories would that be, 155 calories times 4 servings? *(620 calories)*

**(Show Slide 7.)** To keep portion sizes in check when eating a meal, use MyPlate as a guide. Remember to fill half your plate with fruits and veggies. We're going to break into groups, pretend we are going through a buffet and select the foods we'd like to eat.

I'm going to split up the class into four groups and give each group a plate. Each group should select whatever food they wish from the buffet board to make a balanced meal. Make sure you select foods that you would want to eat and the portions that would leave you feeling satisfied, neither hungry nor full. Use MyPlate to help guide your choices.

**(Give two groups small plates and two groups large plates. Give students five minutes to make a meal. Remind them after three minutes that there are two minutes left. Offer assistance to students who appear to be struggling, reminding them of MyPlate fractions.)**

Let's have one person from each group bring your plates to the front of the room and put them next to each other. Then, one at a time, please tell the class what your group chose for your meal and why.

**(After presenting their meals)** What similarities do you see in the meal selections?  
*(Specific foods, balance of food groups, go/slow choices, etc.)*

What differences do you see in the meal selections? (*Quantity of food selected, specific foods, balance of food groups, go/slow choices, etc.*)

What do you think may be causing these differences? Can you conclude anything about using differently-sized plates? Is there a difference? (*Let students conclude that the bigger plate has larger amounts of food on it.*)

The size of your plate may make a difference as to how much food you eat. Plate sizes have changed over time. Today's dinner plate is larger than it used to be. The larger plate we used is 11" in diameter. This is the size of plates in a typical American home. Restaurants use even bigger plates. How big do you think plates were in the 1960's? (8.5") This is the size of our smaller plate. Which plate looks like the size of your plates at home? This smaller plate is the size of MyPlate. What does that tell you about eating out or using large plates at home? **(Don't guide them as we'll reinforce this in a moment.)** (*Portion sizes tend to be much larger in restaurants.*)

**Optional Activity 1 (Takes approximately 7 – 10 minutes):**

To find out the answer to that question, let's do another activity.

**(Show Slide 8.)** Let's look at portions in more detail. We're going to use the worksheet on the board to see what we can learn about portions. See this ruler? **(Point to ruler.)** This is not your typical ruler. Who can tell the class what the marks on these rulers represent? (*These rulers are marked in 1/4 cup increments, meaning for each mark on the ruler equals 1/4 cup of food.*)

Who remembers the difference between a serving and a portion? (*A serving size is a set amount of food which can be determined by reading the nutrition label. A portion is the amount eaten in one sitting.*)

**(Hand one student a pasta box.)** What is the serving size for the pasta? (*1/2 cup cooked pasta*) Step #1 says The serving size of this food is \_\_\_\_ cups. Mark this on the ruler with an "S". Let's mark the ruler with an S at the 1/2 cup line. The serving size is set by the government and is very strict, for instance, a serving of meat, chicken, or fish is 3 ounces, which is about the size of a deck of cards. **(Optional: Hold up a deck of cards.)**

Can I have four volunteers come to the center of the table? **(Give each volunteer one container. Give out two small bowls and two large bowls. Each volunteer also receives measuring cups and a box of pasta)** For Step 2, volunteers, pretend this is

cooked pasta. Please pour the amount of pasta into your container that you feel would be satisfying, leaving you neither hungry nor full.

For Step 3, volunteers, take turns using the measuring cups to determine your portion size. Tell me your answers when you have them. **(Record answers on slide 8.)**

Let's work together to determine how many serving sizes were in each portion. **(Ask class to divide each portion size by 1/2 cup and then record Portion/Serving ratios in right-hand column on Slide 8.)**

So, looking at this data, what is the relationship between serving size and portion size? *(Serving size is generally smaller than portion size.)*

Looking at our container sizes and the portions they yielded, what can you conclude about the relationship between portion size and container size?

*(Direct relationship, the larger the container size the larger the portion size)*

### **Optional Activity 2:**

- Have the students look at food labels; cookies, chips and crackers, in order to identify where the serving information is located and how many servings are in one container or package.
- Ask the students to tell you where they get sugar from in their diets, particularly added sugars.

### **Conclusion:**

All food can be a part of a healthy diet, but it is important to keep in mind appropriate portion sizes. Next time you enjoy a snack food, check out the nutrition label; are you getting more than you bargained for?