

# Lesson 4:

## Be a Label Sleuth

### ABOUT THE LESSON

This lesson focuses on the importance of energy balance. There are three Add variations in the lesson:

- ***Know What's in Your Food*** presents a general overview of food packages, where nutrition information can be found, and how to use the information to make informed decisions
- ***All about Sugar*** defines what sugar is, what the different types are, why they are added, and how to find them on a food label
- ***It's Natural, Organic, or GMO-Free – So It Must Be Healthy!*** focuses on different kinds of nutritional claims and their relationship to the healthfulness of the food

There are also three Apply variations you can mix-and-match with any of the Add variations to create a customized lesson of your choosing.

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### TEACHING MESSAGES

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| <input type="checkbox"/> Eat breakfast<br><input checked="" type="checkbox"/> Eat different kinds of fruits<br><input checked="" type="checkbox"/> Eat healthy snacks<br><input checked="" type="checkbox"/> Eat different kinds of vegetables | <input checked="" type="checkbox"/> Drink water instead of sugary drinks<br><input checked="" type="checkbox"/> Eat foods from most MyPlate food groups<br><input type="checkbox"/> Do things to be physically active |
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### LESSON MATERIALS

#### *All Variations*

- Access to equipment to show videos (computer, projector, etc.)
- The New and Improved Nutrition Facts Label fact sheet from the FDA

### ***Add, Variation A***

- New Nutrition Facts Label poster, printed on card stock

### ***Add, Variation B***

- Items for sugar demonstration:
  - One cup of granulated sugar, stored in a plastic container
  - One teaspoon (measuring spoon)
  - One clear plastic cup

### ***Add, Variation C***

- Front of Package logo cards:
  - Product with “natural” on the label
  - The USDA Organic logo
  - The Non-GMO Verified Project and Bioengineered logos

### ***Apply, Variation A***

- Nutrition Label Comparison cards, printed in color on card stock
- Optional: Student worksheet: “A Closer Look at the Nutrition Facts Label” (included in the Nutrition Label Comparison Cards set)
- Sweetened and unsweetened applesauce (48 oz. jars, one of each)
- 2-oz. size sampling cups, enough for each participant to get two samples

### ***Apply, Variation B***

- Sixty-One Names for Sugar handout
- Product Cards set, printed in color on card stock and laminated (there are five cards)
- Set of dry-erase markers
- Banana Pudding in a Bag recipe cards
- Ingredients and equipment for Banana Pudding in a Bag recipe (one recipe makes 8 sample-size servings):
  - Low fat granola (1/2 cup)
  - Medium ripe bananas (2)
  - Unsweetened applesauce (1/2 cup)
  - Nonfat vanilla yogurt (1/2 cup)
  - Dry measuring cups
  - Gallon-size zip-close bags
  - Spoons (2)
  - Small bowl (for granola)
  - 2-oz. size sampling cups
  - Napkins
  - Sanitizing wipes

### ***Apply, Variation C***

- Product Cards set, printed in color on card stock and laminated
  - Set of dry-erase markers
  - What’s the Whole Story worksheet
  - Ingredients and equipment for Fresh Veggies and Dip Assortment:
    - 3 bell peppers, seeded and sliced
    - 1 16-oz. package baby carrots
    - 1 bunch celery, cut into strips
    - 8 oz. container low-fat dip
    - 8 oz. container hummus
    - Large serving tray
    - Small paper plates
    - Napkins
    - Sanitizing wipes
    - Quart-size food storage bags
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## LESSON PREPARATION

### *Add, Variation A*

- Day of the lesson:
  - Hang the Nutrition Facts Poster in the front of the room, or display it where everyone can see it.

### *Add, Variation B*

- Day of the lesson:
  - Set out the items for the sugar demonstration on a small table near the front of the room.

### *Add, Variation C*

- Prior to the lesson:
  - Print the Front of Package logo cards in color on white card stock.

### *Apply, Variation A*

- Prior to the lesson:
  - Print the Product Comparison cards in color on white card stock. (There are five cards.)
  - Optional: print the student worksheet “A Closer Look at the Nutrition Facts Label” that is included in the Product Comparison Cards set, one for each student.
- Day of the lesson:
  - Set up a table with the applesauce and sampling cups (2 cups per person). Fill half the cups with a sample of sweetened applesauce and half with the unsweetened applesauce.

### *Apply, Variation B*

- Prior to the lesson:
  - Print the Product Cards in color on white card stock. Laminate each card.
  - Make copies of the Sixty-One Names for Sugar handout (one copy for each participant).
- Day of the lesson:
  - Set up a table with the banana pudding ingredients and equipment.

### *Apply, Variation C*

- Prior to the lesson:
    - Wash all fresh produce. Cut peppers and celery into strips. Store prepared vegetables in quart-size storage bags in the refrigerator.
    - Print the Product Cards in color on white card stock. Laminate each card.
    - Make copies of the What’s the Whole Story worksheet (one copy for each group).
  - Day of the lesson:
    - Set up a table with the items for the food sampling. Arrange the vegetables on the large serving tray. Set out the dips, plates, and napkins.
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## TRANSITION

Last time we met, we talked about .... Who would like to share about...?

Today, we'll be talking about using food labels to make informed decisions about what we're eating. One way to do this is to look at the Nutrition Facts label on the food package. The Nutrition Facts label is actually a rather recent phenomenon, being required on packaging starting in 1973. This was because prior to 1970, most foods were prepared at home from scratch. Information on calories, protein, carbohydrate, fat, and certain vitamins and minerals was required to be on the label. In the 40 years since the first label appeared on food packages, the look of the label has changed, as well as some of the required information, but the goal remains the same: to help the consumer know what's in the food they're eating. Recently, the FDA made changes to the Nutrition Facts label that will be required starting in 2020. Some food companies have already begun using the new label; you may have seen it on a package of food.

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## ANCHOR

What percentage of packaged foods have a Nutrition Facts label? What information can you find on the Nutrition Facts label?

*[Write down participants' responses on the board or on flip chart paper. Anchor answers: 96% of packaged foods have a Nutrition Facts label. The label contains information on serving size, servings per package, calories, fat, protein, carbohydrates, fiber, sodium, and several vitamins and minerals.]*

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## ADD

### ***Variation A – Know What's in Your Food***

How many of you look at – really look at – the packaging of a food you're about to eat? How do you know what's in the food? Information about the food product can be found in several places on a package. Often times, a package will have “front of package labeling” about the product. Front of package labeling can be helpful, but it can also mislead you into thinking a food is healthier than it really is.

The Nutrition Facts label is another place you can learn about what's in the food – not only the ingredients, but also the nutrition. How many of you look at the Nutrition Facts label on a package of food? *[Allow participants to raise their hands.]* In one study that investigated teens' use of food labels, 65% of eight-graders used the Nutrition Facts label, but that number dropped to 55% for teens in eleventh grade. If you're a label-reader, you're more likely to have a healthy diet than those who don't read labels – specifically, you're more likely to eat fruits and vegetables and less likely to overdo it on sweets. Every food label has two parts: the Nutrition Facts and the ingredients list.

Let's look at the label and see what kind of information we can learn about the food. Here is an example of the new Nutrition Facts label. *[Refer to the Nutrition Facts Label poster hanging in the front of the room.]* What do you see on this label that you think is important? *[Allow participants to identify various parts of the Nutrition Facts label. Option to have them come up to where the poster is hanging. Probe for things like calories, serving size, sodium, fiber, added sugar, vitamins/minerals.]* Why do you suppose the calorie information is so large? *[Allow for a few responses.]* This was done intentionally so that people pay attention to the amount of calories in the food. You'll also notice that the serving size information is bolded, for the same reason. And what a serving size is has changed to be more in line with the amount people usually eat. For example, a serving size of yogurt is now 6 ounces instead of 8 ounces, because most people eat a 6-ounce serving of yogurt. Added sugars are now required to be listed under Total Sugars so that people know how much added sugars are in their food. This is because science has shown that a diet high in added sugars is linked to many different health problems, like diabetes, heart disease, and liver problems. Since most Americans don't get enough Vitamin D or potassium, these nutrients are now required to be listed, along with calcium and iron.

The ingredients list features all the ingredients in the food, by weight, with the ingredient in the highest amount first. Along with everything that's in the food, companies also must state if the food contains any of the eight most common **food allergens**. These include peanuts, tree nuts, wheat, soy, milk, eggs, fish, and shellfish.

What are some questions you have about food labels? Do you think that the new changes will be helpful to people in making better food choices? *[Allow for a few responses.]*



*[If time permits, show the following video clip to the participants. Ask them if they relate to the sentiments expressed in the video.]*

FitMD: Food Labels – Read What You Eat (2 minutes): <https://fit.webmd.com/teen/food/videos/video-read-the-label>

### ***Variation B – All about Sugar***

According to the latest data, the average American eats 22 teaspoons of sugar each day, most of it as **added sugar**. *[Invite a participant to come up and measure out 22 teaspoons of white sugar into a clear plastic cup. When they are done, hold up the cup for everyone to see.]* What do you think when you see this amount of sugar? Is it a lot or not as much as you thought? *[Allow for a few comments.]* In fact, 88% of US teens don't meet the guidelines agreed upon by most health experts to limit added sugars to 10% or less of your daily calories. For most teens, the source of added sugar is in drinks – sodas, energy drinks, sports drinks, or fruit punch. The problem with added sugar is that it provides a lot of calories, causes your insulin levels to spike, interferes with memory and learning, and causes skin problems. One study found that increases in sugary drink consumption among teens is associated with higher BMI (body mass index) and heart disease risk; plus, poor dietary habits, like eating too much sugar, in childhood carry over into adulthood.

Who can guess what the top five sources of added sugar are in the typical American diet? *[Allow for participants to name them. As they call out the correct ones, write them on the board or flip chart paper.]* Candy, drinks, desserts, ice cream, and breakfast foods are where most of our added sugar comes from. It's easy to overconsume sugar, too. Experts recommend no more than 6 teaspoons of sugar for women and 9 for men. But one 20-ounce soda out of the vending machine contains over 16 teaspoons of sugar, 2-3 times what is recommended. One thing to be aware of is that recommendations are in "teaspoons per

day,” but food labels list the amount of sugar in grams. You can figure out how many teaspoons there are by doing some simple math. **One teaspoon = 4 grams.** So if a package of food has 25 grams of sugar, it has just over 6 teaspoons.

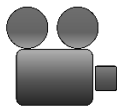
How do you find sugar on a food label? The information can be found in two places: the Nutrition Facts panel, and the ingredient list. Remember that ingredients are listed in order of quantity, with the ingredients used in the greatest amount first, followed in descending order by those in smaller amounts. And one food product can have several different types of sugars. In fact, did you know that there are more than 60 different names for sugar? What are some you have seen? *[Allow for participants to name different types of sugars. Write them down on the board.]* The most common ones are:

- Cane sugar, granulated sugar, or sugar
- Brown sugar or raw sugar
- Molasses or nectar
- Honey, maple syrup, or malt syrup
- Dextrose, maltose, or sucrose
- High fructose corn syrup or corn syrup

There are two main types of sugars: naturally-occurring sugars and added sugars. **Naturally-occurring sugars** are those that already exist in a food, such as fructose in fruits and lactose in milk. **Added sugars**, on the other hand, are sugars that are added to foods when they’re being made. A sugar can be *natural* but still added. For example, honey is a natural sugar, but if you’re eating cereal with honey in it, it’s an added sugar because it didn’t already exist in the cereal. Basically, if sugar is in the ingredient list, it’s been added to the food.

Almost three out of four packaged foods contain added sugar. Why do companies add sugar to food? *[Allow for a few responses.]* Sugar is added to food for a variety of reasons: to help to food last longer, to make the food taste better, to give structure or texture to foods like baked goods, and for certain reactions to take place (when baking bread, yeast need sugar to grow). While cookies, cakes, cereal, and granola bars are known to have added sugar, it also hides out in unexpected places...like spaghetti sauce or bread. Even hot dogs and peanut butter can have added sugar.

The new Nutrition Facts Labels will separate out the amount of added sugar in a food product starting in 2020. You will be able to see how much total sugar a food contains, plus the sub-portion that is from added sugar. Limiting the amount of added sugar in your diet is key for optimal health, so while you can still have dessert, just be aware of how much you’re eating.



*[If time permits, show one of the following video clips to the participants. Ask them if they relate to the sentiments expressed in the video.]*

*Sugar: Hiding in Plain Sight (4 minutes): <https://youtu.be/Q4CZ81EmAsw>*

### ***Variation C – It’s Natural, Organic, or GMO-Free – So It Must Be Healthy!***

Have you ever picked up a box of your favorite cereal and paid attention to what’s on the front? What are some of the things you see? *[Allow for a few responses.]* Along with the brand’s name and logo, you’re very likely to see claims about the food to entice you to buy it. While some of the claims have to be approved by the FDA, such as health-related claims, other words that you may encounter don’t have a standard definition and can be quite confusing. Let’s explore some of the most popular front of package claims and what they actually mean.

## “Natural”

Recently, Consumer Reports did a survey of American grocery shoppers and found that 60% of them buy products labeled “natural.” *[Hold up the card showing a “natural” claim on the front.]* Natural certainly sounds healthy, but it’s one of those words that has not been clearly defined by the FDA. What this means, essentially, is that any food can be called “natural” as long as it doesn’t contain artificial ingredients, but it can still be full of excess sodium, fat, and sugar. Other claims that are vague and do not have a standard definition include “simple,” “clean,” and “fresh.” These words might make a food sound good for you, but without any standard way of defining them, you really can’t tell how nutritious the food actually is.

## “Organic”

If a product carries the word “organic” on it, or includes the USDA Organic logo, then you can be assured that the product has met a set of standards about how the food is grown and processed. *[Hold up the card showing the USDA Organic logo.]* This is what the logo for organic foods looks like.

There are three categories for labeling organic foods:

- 100% organic – the food contains only ingredients that are certified organic
- Organic – the food must contain at least 95% of certified organic ingredients
- Made with organic – the food must contain at least 70% certified organic ingredients

However, as with the term “natural,” “organic” doesn’t always equal “healthy.” Many organic foods can still be high in sodium, fat, and sugar, and lacking in fiber and other nutrients.

## “Non-GMO”

Foods that are made from GMO’s – genetically modified organisms – get a bad rap. In fact, only 37% of Americans think that foods containing GMO’s are safe – compared to 88% of scientists. One theory about this is that people may not understand much about genetic modification (or genetic engineering) – which can lead to a negative bias toward these foods. A genetically engineered ingredient has had its genetic material altered in some way. Some of the reasons for modifying foods include crop protection, less use of pesticides, faster growing plants and animals, and increased food supply. All genetically engineered ingredients must be tested for safety, just like their traditional counterparts. A proposed rule from the government will soon require food companies to say whether their food contains GMO’s – called **bioengineered foods** – by carrying a certain logo or stating it in the ingredients list. *[Hold up the card showing the non-GMO project and bioengineered logos.]* Companies can certainly indicate if their food does not contain GMO’s if they choose. Again, just because a food contains – or doesn’t contain – GMO’s doesn’t mean it’s healthy. A quick peek at the Nutrition Facts label will tell you what you want to know.



*[If time permits, show one of the following video clips to the participants. Ask them if they relate to the sentiments expressed in the video.]*

*Top 10 Misleading Food Label Claims (4 ½ minutes):* <https://youtu.be/JXDo-73uaAI>

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## APPLY

### ***Variation A – A Closer Look at the Nutrition Facts Label***

The go-to place for finding out nutrition information of a packaged food is the Nutrition Facts label, which the FDA requires to be present on any packaged food. The idea behind the label is to help consumers – like you – make informed choices about the foods you eat. If you’re trying to keep your calories in check, it’s easy to find them on the new label, which has already begun appearing on many food products. If you’re watching salt, look at the sodium content. If you are concerned about sugar, you can now not only know how much total sugars are in the food, but also how many of them are from added sugars – sugars that food companies add to the product during processing.

*[For this activity, choose three of the five Nutrition Label Comparison Cards based on the specific group you are working with. If time permits, you can do all five products.]* We’re going to compare two Nutrition Facts labels for several different kinds of foods. We’re going to look at differences in selected nutrients for each of the foods.

The first product is ranch salad dressing. *[Hold up the ranch dressing product card.]* I need a volunteer to assist me. *[Recruit a participant volunteer.]* The label on the left side is for regular ranch dressing. The label on the right side is for fat-free ranch dressing. *[Ask the volunteer to read the values for calories, total fat, sodium, and sugar out loud for the group. Then, address the group.]* What were some of the differences you noticed between the regular ranch and the fat-free ranch? *[Allow for a few responses.]* How can this information help you choose a dressing? *[Allow for a few responses.]*

*[Repeat the process above with the remaining food products, selecting new volunteers for each one.]*

- *For the milk, compare calories, total and added sugars, and the four vitamins/minerals.*
- *For the bread, compare calories, sodium, total and added sugars, and fiber.*
- *For the potato chips, compare calories, total fat, sodium, and total and added sugars.*
- *For the cooked chicken, compare calories, total and saturated fat, sodium, total carbohydrates, and protein.]*

What did you learn from doing this activity? Was there anything we talked about today that was something you haven’t thought about before? *[Allow for a brief discussion.]*

Even “healthy” foods can have a lot of added sugar. For example, sweetened applesauce – or what you might think of as “regular” applesauce – has twice the amount of sugar compared to unsweetened applesauce, sometimes referred to as “natural” applesauce. A 4-ounce serving of sweetened applesauce has 22 grams of sugar (5 ½ teaspoons), with half of it being from added sugar. In comparison, unsweetened applesauce has 11 grams of sugar, all of it coming from the apples themselves. I’d like to invite you to taste a sample of both sweetened and unsweetened applesauce. While they certainly taste different, what do you notice about the sweetness level of each one? *[Invite participants to sample the unsweetened applesauce and comment on the perceived level of sweetness.]*

### ***Variation B – Can You Spot the Sugar?***

Sugar goes by many different names. In fact, there are at least 60 different aliases for sugar. Some names are obvious, but others can be tricky to identify as being an added sugar. Food companies have gotten creative when it comes to making an added sugar sound more wholesome than it really is. Doesn’t “evaporated cane juice” sound healthier than “granulated sugar”? Some names for sugar may be ones you haven’t heard of before.

*[Divide the participants into small groups of 4-5 people. Give each group 1 of the food product cards and one dry erase marker. Pass out a copy of the Sixty-One Names for Sugar handout to each participant.]*



Each group has a laminated card with a food product. I've also given each of you a handout that has all the different names for sugar on it. In your groups:

- Identify all the different kinds of sugars in the ingredients list. Use the dry erase marker to circle or underline the names of the sugars.
- Note where the sugars appear in the ingredient list. Remember, ingredients are listed in order of quantity, meaning that the first ingredient in the list is in the food in the highest amount.
- Then, look up at the Nutrition Facts Label. How many sugars are in one serving of the product?
- Does the label separate out added sugars from total sugars?

*[Allow participants up to 10 minutes to complete the activity. When they have finished, invite each group to share the results of their food products.]* What surprised you about this activity?

Today we're going to make a simple banana pudding recipe. It only takes ten minutes and has four ingredients. This is a great way to satisfy your sweet tooth and get some good nutrition as well. *[Recruit 4 volunteers to assist with each recipe preparation – one recipe preparation serves 8 participants. For example, if you have 24 participants, you will need to make 3 recipes, and you'll need 12 volunteers.]* One person will peel the bananas, put them in the plastic bag, and mash them. Another person will measure out the applesauce, and a third person will measure out the yogurt. The last person will mash everything up together until the pudding is blended. *[Once the recipe has been prepared, spoon into sampling cups and top off with granola.]*

This homemade banana pudding has half the fat and added sugars, a fraction of the sodium, and six times the fiber of regular “snack size” banana pudding you can buy in the store. Plus, it provides Vitamin D, calcium, iron, and potassium – which the other kind doesn't.

### ***Variation C – How Does Your Food Stack Up?***

Even though companies are required to put the nutrition information on packaged foods, it can sometimes be challenging to know if a food product is a good choice or not, thanks to the package design and front-of-package labeling. Therefore, in order to make the most informed decision about a product, you need to look at not only the front of the package, but also the Nutrition Facts label and ingredients list. By using all three pieces of information, you can get a complete picture of just how nutritious that food product is.

*[Divide the participants into small groups of up to 5 people. Give each group one food product card and one dry erase marker. Pass out a copy of the What's the Whole Story worksheet to each group.]* Each group has a laminated card with a food product. I've also given each of you a worksheet to fill out as a group. Follow these four steps:

- **Step 1:** Look at the front of the food package. Count all the claims you see on the package. (Icons or symbols can also count.) Record the number of claims and the type of claims on your worksheet.
- **Step 2:** Look at the Nutrition Facts label. Write down the following information on your worksheet: Number of servings; Calories; Saturated fat; Sodium; Dietary fiber; and Sugars. If your label has total and added sugars, write down both numbers.
- **Step 3:** Read the ingredients list. Does the food product contain any whole grains? (Is the word “whole” listed before the ingredient?) How many different sugars are in the product?
- **Step 4:** Put it all together. Based on the front-of-package labeling, the nutrients in the Nutrition Facts, and the ingredients, explain whether you think this food is a good choice or not.

*[Allow participants up to 10 minutes to complete the activity. When they have finished, invite each group to share the results of this activity.]* After doing this activity, do you feel like you might make different decisions when it comes to choosing food products? Why or why not?

Remember, some of the best food for you doesn't come in a package with front-of-label claims. Think of whole fruits and veggies. Whether they are traditionally grown or organic, they're all-natural, high in fiber, and contain no added sugar! Plus, they are super-convenient – just wash and eat! I have an assortment of fresh veggies and several dips to try. *[Invite participants up to try the assorted vegetables. Discuss whether this is something they would consider having for a snack instead of a packaged food.]*

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## AWAY

*[Pass out a copy of the New and Improved Nutrition Facts Label fact sheet to each participant.]*

This fact sheet explains all the changes to the Nutrition Facts label and why they're important. It's a handy resource to help guide you to make informed decisions about the foods you eat.

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## NOTES

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## RESOURCES

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