LESSON PLAN A

HOW TO READ THE (NEW) FOOD LABELS

Time Frame: **One 45-minute session**

Learning Objectives:

- Learn how to read and understand food labels.
- Identify the different nutrients found on the Nutrition Facts label.
- Understand which nutrients they should limit vs. those they should consume in greater quantities.
- Compare the nutrients found in different foods in order to make healthier choices.
- Reflect on their personal food and drink choices.

Materials for Lesson Plan:

- Copies of Nutrition Facts Coloring Worksheet
- Copy of Nutrition Facts Reference Guide (for teacher reference)
- Colored pencils (green, red, yellow and blue)
- Food labels from various food packages — brought from home (optional)

Overview:
The Nutrition Facts label found on packaged foods and beverages is a useful tool for children and adults. In July 2018, the label was updated with a redesigned format and updated information.

In this lesson, students learn how to read the new label from top to bottom. They also learn they can use it as a tool to detect the nutrient content of many things they eat and drink every day, to figure out portion sizes, and to compare different foods to make good choices.

Preparation:
Ask students to bring cans, packages and wrappers from food and drink items to school in advance. They can also take photos of food labels on a trip to the supermarket. These can be used as reference materials for this activity and the extension.

Print out a copy of the Nutrition Facts Reference Guide at the end of this lesson to use as a teaching tool.

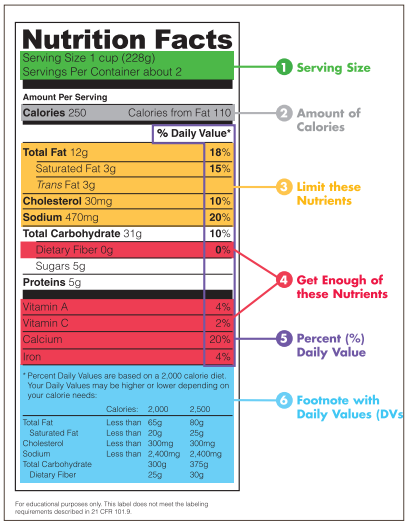
Distribute copies of the Nutrition Facts Label Coloring Worksheet. Hand out colored pencils (green, red, yellow and blue) to students if needed. Give the following directions to your students:

Talking Points:
Today you'll learn how to read and understand the Nutrition Facts label found on packaged foods and beverages.

There are some brand new changes to the food labels this year. New things have been added, and the design has been changed to make it easier to read.

The new label is designed to help encourage us to get the nutrients we need to live an active, healthy lifestyle. Getting enough of certain nutrients, and not too much of others, is an important part of our physical health.

Food manufacturers still have time to begin using the new and improved Nutrition Facts label, so you'll see both label versions for a while. However, the new label is already starting to appear on products in stores around the country.



Instructions to Students:

1. Let's start at the top.
- First look at the serving size and the total number of servings in the package. This is key information to help us with portion control.
  - Serving sizes are determined by the Food and Drug Administration (FDA) and are based on the average portion people consume as one serving rather than the recommended amount they should consume. Many serving sizes were updated with the new nutrition label as well.
- Use your **green** colored pencil to color in the serving size and number of servings.
- Talking Points:
  - For a big box of cereal, a serving size is hard to visualize. The next time you have cereal, measure the serving size in a measuring cup. Pour it into your bowl and pay attention to what one serving looks like. If you do this once, then you'll have a rough idea in your head.
  - For a small bag of your favorite snack, it's easier to visualize. Say it says two servings. If you eat the whole bag, then you need to double the calories as well as the fat, sodium and all the nutrients listed below. Or, you could just eat half and save the rest. Better yet, share the bag with a friend!

2. Now check the calories.
- A calorie is a unit that measures the amount of energy in our food and drinks. We all need calories every day to give our bodies energy and to keep them functioning. Remember, if you consume more calories than you burn off through physical activity, then that energy will be stored as fat.
- Pay attention to the calories per serving and make sure you really know how much you're consuming.

3. Get enough of these nutrients.
- These are the nutrients we want to get more of — dietary fiber, vitamin D and the minerals potassium, calcium and iron. Older labels list vitamins A and C. We should try to get 100% DV (percentage of your Daily Value) of all these nutrients on most days of the week.
- Use your **red colored pencil to color in the information related to fiber, vitamins and minerals.**
- Talking Points:
  - Ask yourself: Is it nutritious? Is it a good source of fiber?
  - 20% or more DV is high — aim for high in vitamins, minerals and fiber.
  - Girls age 9–13 should get 26 grams of fiber a day. Boys age 9–13 should get 31 grams of fiber each day.
  - Choose foods with at least 3 grams of fiber per serving (5 grams per serving is considered high fiber).

What about protein?
- Question: Why isn't protein colored in blue?
- Answer: Protein is a very important nutrient. It forms the building blocks of every cell in our body! Protein foods like eggs, cheese, beans, nuts, peanut butter and yogurt (along with meat and seafood) keep us feeling full and keep

our bodies strong. But most children and adults get enough protein every day, and the FDA wants us to pay the most attention to the nutrients we're lacking in our diets. We should all strive to get 100% of ALL the nutrients we need each day — protein included.

4. Limit these nutrients.

- These are the nutrients we want to get less of — fat, cholesterol and sodium.
- Limit the amounts of saturated fat and sodium you eat, and avoid trans fats.
- Use your **yellow colored pencil to color in the information related to fat, cholesterol and sodium.**
- **We should all aim to get 5% or less of our DV from these nutrients. The % DV symbol you see is the percentage of each nutrient in a single serving, in terms of the daily recommended amount.**
- **Ask yourself: Is it heart-healthy? Heart-healthy foods are low in total fat, saturated fat, trans fat and cholesterol.**
- **[Teachers: See information on sodium and saturated and trans fats in the reference section below.]**

What about sugars?

- On the new food label, sugars are broken into two categories: natural sugars, like those in fruit, and added sugars, which are those added to packaged foods and the kind you put in a sugar bowl.
- Foods with natural sugars are generally more nutritious, as they usually contain more fiber, vitamins and minerals. However, our bodies process both natural sugars and added sugars in the same way. Therefore, it's recommended that we limit the total amount of sugar we eat each day.
- The FDA recommends we consume no more than 50 grams of sugars a day. 50 grams is equal to ¼ cup of sugar, or 12 teaspoons. Does that sound like a lot or a little? It's surprising how quickly it can add up!
- Many nutritionists think it's smart to focus on consuming as much nutrient-rich food as possible each day. This is one way to cut down on our sugar intake, as highly nutritious foods tend to have more fiber and less sugar. If we follow the MyPlate guidelines, and focus on nutrient-rich choices, there's little room left over in our daily allowance for extra sugar.

5. Footnotes

- This section at the bottom of the label has changed to better explain the meaning of % DV (percentage of your Daily Value). It shows the nutrition information in the context of a total daily diet.
- This tells us that all calculations are based on 2,000 calories a day. You may need to consume less or more than 2,000 calories depending upon your age, gender, activity level and whether you're trying to lose, gain or maintain your weight.
- The recommended range of calories for children age 9 to 11 is 1,600 to 2,200 per day. To make it easier, we can just use the standard amount used on food labels, which is 2,000 calories per day.

6. What's % DV all about?

- % DV = percentage of Daily Value
- This is the percentage of each nutrient in a single serving, in terms of the daily recommended amount.
- Use your **blue colored pencil to color in the column of % DV on the label.**
- **To consume less of a nutrient (such as saturated fat or sodium), choose foods with a lower % DV — 5 percent or less. To consume more of a nutrient (such as fiber), seek foods with a higher % DV — 20 percent or more.**

Follow Up Questions:

Q: Do we want to get more or less in the yellow zone?
A: Less
Q: Do we want to get more or less in the red zone?
A: More

Extensions:
Old vs. New Labels — Do a survey of food labels brought in from home. Can you find some of the old-style labels? Can you find some of the newly designed labels? Present one of each to the class, and point out at least three differences.

Math Activity — Find a food label that contains more than one serving. What would it look like if you ate or drank double the serving size? What if you consumed 2 ½ times the serving size? Do the math for every number on the label.

Reference Material for Discussion:

Sodium (Salt)
Packaged and prepared meat, poultry, canned beans and vegetables and seafood products are common sources of sodium (salt). Sodium is added to packaged foods sometimes during processing such as in curing meat, enhancing flavor, or as a preservative. In canned beans and vegetables, rinsing and draining them can significantly reduce the sodium levels while still retaining important nutrients. While you need sodium to survive, it is important to pay attention to your overall sodium intake.

Children and adults should eat less than 2,300 milligrams of sodium per day. Explain that 1 teaspoon of table salt is equal to 2,300 milligrams of sodium.

Oils (liquid) and fats (solid)
Oils are fats that are liquid at room temperature, like the vegetable oils used in cooking. Oils are not a food group, but they do provide essential nutrients and are therefore included in USDA recommendations for what to eat. For ages 9–13, the daily allowance for oils is 5 teaspoons. A number of foods are naturally high in healthy oils, like nuts, peanut and other nut butters, olives, some fish, and avocados. In addition to essential fatty acids, oils are a major source of vitamin E.

Other foods that are mainly oil include mayonnaise, certain salad dressings, and soft (tub or squeeze) margarine. Check the Nutrition Facts label to find margarines with 0 grams of trans fat. Amounts of trans fat are required to be listed on labels.

Saturated and Trans Fats
Solid fats are fats that are solid at room temperature, like beef fat, butter and shortening. Solid fats contain more saturated fats and/or trans fats than oils. Saturated fats and trans fats tend to raise "bad" (LDL) cholesterol levels in the blood (see below), which in turn increases the risk for heart disease. To lower risk for heart disease, opt for foods containing unsaturated fat.

Unsaturated Fats
Look for polyunsaturated (PUFA) and monounsaturated (MUFA) fats: these are the two unsaturated fats. They're mainly found in fish such as salmon, trout and herring, and in avocados, olives, walnuts and liquid vegetable oils such as soybean, corn, safflower, canola, olive and sunflower. Both PUFAs and MUFAs may help improve your blood cholesterol when used in place of saturated and trans fats.

MUFAs and PUFAs
Most of the fats you eat should be polyunsaturated (PUFA) or monounsaturated (MUFA) fats. Oils are the major source of MUFAs and PUFAs in the diet. PUFAs contain some fatty acids that are necessary for health — called "essential fatty acids." The MUFAs and PUFAs found in fish, nuts, and vegetable oils do not raise LDL ("bad") cholesterol levels in the blood.

Cholesterol

There are two main forms, LDL (low density lipoprotein) and HDL (high density lipoprotein). LDL cholesterol is often referred to as "bad cholesterol" because too much is unhealthy. HDL is often referred to as "good cholesterol" because it is protective. Knowing your levels of these can help explain your risk of heart disease.

Cholesterol isn't just something that sits in your body like fat around your waist. It's carried through your bloodstream by carriers made of fat (lipid) and proteins. These are called – no big surprise — lipoproteins.

HDL (Good) Cholesterol

HDL cholesterol is "good" cholesterol. Think of it as the "healthy" cholesterol, so higher levels are better. Experts believe HDL acts as a scavenger, carrying LDL cholesterol away from the arteries and back to the liver. There it's broken down and passed from the body.

A healthy HDL cholesterol level may protect against heart attack and stroke. Studies show low levels of HDL cholesterol increase the risk of heart disease. HDL cholesterol does not completely eliminate LDL cholesterol. Only one-fourth to one-third of blood cholesterol is carried by HDL.

LDL (Bad) Cholesterol

LDL cholesterol is called "bad" cholesterol. Think of it as less desirable or even lousy cholesterol, because it contributes to fatty buildups in arteries (atherosclerosis). Plaque buildups narrow arteries and raise the risk for heart attack, stroke and peripheral artery disease (narrowed arteries in the legs).

Cholesterol-Lowering Foods

Oats; barley and other whole grains; beans; apples, grapes, strawberries and citrus fruits; and soy are all good foods for lowering your cholesterol levels. A bowl of oatmeal with apples and soy milk is a powerhouse choice!

Sugars

Sugars can be broken into two categories: Added sugars and natural sugars.
The Food and Drug Administration (FDA) defines added sugars as sugars that are either added during the processing of foods, or are packaged as such (e.g., a sugar packet, honey or bag of brown sugar). Added sugars include: syrups, brown sugar, high fructose corn syrup, invert sugar, maltose, trehalose, honey, molasses, sucrose, lactose, maltose sugar and concentrated fruit juice.

Foods that contain natural sugar include fruit, milk and plain yogurt. Naturally sweet foods are generally more nutritious than foods with added sugars. That's because many of them also contain vitamins, minerals and sometimes fiber.

Everyone should strive to limit their overall sugar intake.

Further Reference:

FDA: Changes to the Nutrition Facts Label (includes infographics)

FDA: Nutrition Facts Label Images for Download

FDA: Side-by-Side Comparison of Original vs. New Nutrition Labels

FDA: Food Serving Sizes Get a Reality Check

AHA: Understanding Food Nutrition Labels

Standards Alignment | Students will:

National Health Education Standards
Standard 3. Students will demonstrate the ability to access valid information, products, and services to enhance health.
Standard 5. Students will demonstrate the ability to use decision-making skills to enhance health.
Standard 7. Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.

Common Core Standards for Math > Operations & Algebraic Thinking
CCSS.MATH.CONTENT.3.OA.B.5 – Understand properties of multiplication and the relationship between multiplication and division.
CCSS.MATH.CONTENT.3.OA.C.7 – Multiply and divide within 100.
CCSS.MATH.CONTENT.4.OA.A.1 – Use the four operations with whole numbers to solve problems.
CCSS.MATH.CONTENT.5.NF.B.3 – Apply and extend previous understandings of multiplication and division.

Worksheets & Downloads:

Nutrition Facts

Serving Size 1 cup (228g)
Servings Per Container about 2

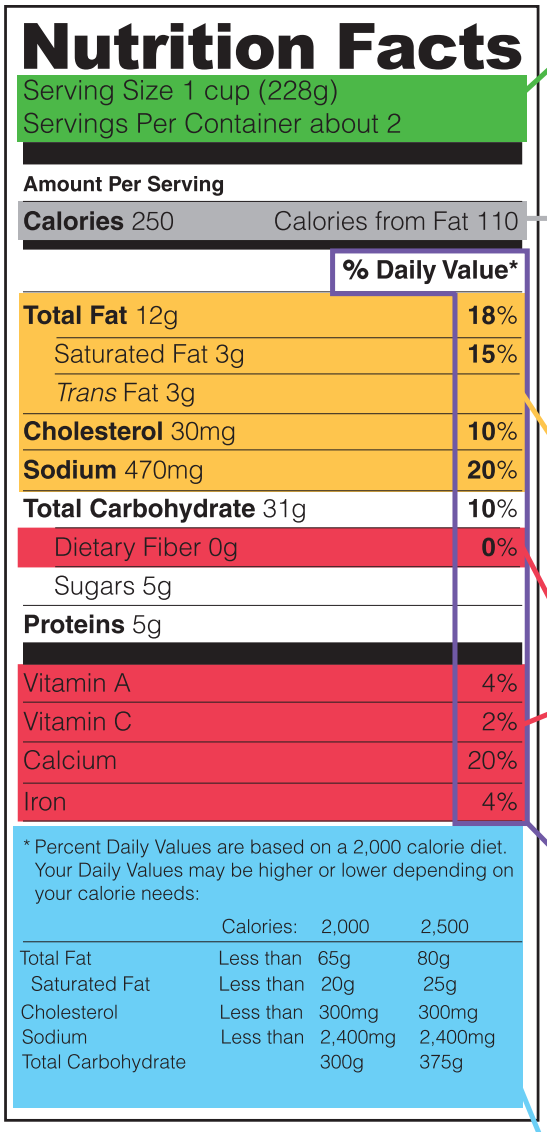
Amount Per Serving

Calories 250	Calories from Fat 110
	% Daily Value*
Total Fat 12g	**18**%
Saturated Fat 3g	**15**%
Trans Fat 3g	
Cholesterol 30mg	**10**%
Sodium 470mg	**20**%
Total Carbohydrate 31g	**10**%
Dietary Fiber 0g	**0**%
Sugars 5g	
Proteins 5g	
Vitamin A	4%
Vitamin C	2%
Calcium	20%
Iron	4%

* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs:

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Saturated Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

For educational purposes only. This label does not meet the labeling requirements described in 21 CFR 101.9.



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1 Serving Size

This section is the basis for determining number of calories, amount of each nutrient, and %DVs of a food. Use it to compare a serving size to how much you actually eat. Serving sizes are given in familiar units, such as cups or pieces, followed by the metric amount, e.g., number of grams.

2 Amount of Calories

If you want to manage your weight (lose, gain, or maintain), this section is especially helpful. The amount of calories is listed on the left side. The right side shows how many calories in one serving come from fat. In this example, there are 250 calories, 110 of which come from fat. The key is to balance how many calories you eat with how many calories your body uses. ***Tip:*** *Remember that a product that's fat-free isn't necessarily calorie-free*.

3 Limit these Nutrients

Eating too much total fat (including saturated fat and trans fat), cholesterol, or sodium may increase your risk of certain chronic diseases, such as heart disease, some cancers, or high blood pressure. The goal is to stay below 100%DV for each of these nutrients per day.

4 Get Enough of these Nutrients

Americans often don't get enough dietary fiber, vitamin A, vitamin C, calcium, and iron in their diets. Eating enough of these nutrients may improve your health and help reduce the risk of some diseases and conditions.

5 Percent (%) Daily Value

This section tells you whether the nutrients (total fat, sodium, dietary fiber, etc.) in one serving of food contribute a little or a lot to your total daily diet.

The %DVs are based on a 2,000-calorie diet. Each listed nutrient is based on 100% of the recommended amounts for that nutrient. For example, 18% for total fat means that one serving furnishes 18% of the total amount of fat that you could eat in a day and stay within public health recommendations. Use the Quick Guide to Percent DV (%DV): 5%DV or less is low and 20%DV or more is high.

6 Footnote with Daily Values (DVs)

The footnote provides information about the DVs for important nutrients, including fats, sodium and fiber. The DVs are listed for people who eat 2,000 or 2,500 calories each day.

– The amounts for total fat, saturated fat, cholesterol, and sodium are maximum amounts. That means you should try to stay below the amounts listed.