

LESSON OUTLINE

Lesson #3: Know What Is In Your Fuel – Food Investigators

Lesson Objective: Students will learn to analyze the Nutrition Facts Label and Ingredient List on packaged foods to identify higher-quality foods.

Classroom Lesson Outline:

1. Review from Lesson #2 5 minutes
2. Definitions for 2 parts of food labels 15 minutes
 - a. Ingredients
 - i. Lists in detail what is in the food
 - ii. Listed in order from greatest to least
 - b. Nutrition Facts
 - i. Breaks down nutrient content in foods, such as proteins, fats and carbohydrates
 - ii. Use as a tool in combination with ingredient list to determine quality of a food
 - c. Clues for finding a higher-quality food
 - i. Fewer ingredients, the better
 - ii. Source should be one of the first few ingredients
 - iii. You should recognize the words in the list
3. Investigating food labels 7 minutes
 - a. Activities
 - i. Analyze nutrition facts and ingredients for two breads
 - ii. Draw conclusion on higher-quality bread
 - iii. Analyze nutrition facts and ingredients for two strawberry spreads
 - iv. Draw conclusion on higher-quality spread
4. Review 3 minutes
5. Optional Food Sample 8 minutes



Recommended Reading

A Special Note On Grains

A Few Tips for Using Food Labels

California State Standards met by grade

3rd grade: Investigation and experimentation

- Scientific progress is made by asking meaningful questions and conducting careful investigations.
- Collect data in an investigation and analyze those data to develop a logical conclusion.

4th grade: Comprehension and Analysis of Grade-Level-Appropriate Text

- Evaluate new information and hypotheses by testing them against known information and ideas.

5th grade: Structural Features of Informational Materials

- Understand how text features (e.g., format, graphics, sequence, diagrams, illustrations, charts, maps) make information accessible and usable.
- Analyze text that is organized in sequential or chronological order.

SCRIPT

Lesson #3:

Know What Is In Your Fuel – Food Investigators

Let's do a quick review of what we've learned so far in GrowingGreat.

We learned that a car needs only the type of fuel it was designed to use, either regular, unleaded or diesel. And we learned that our bodies are designed to use a combination of 3 different types of fuel.

Question: What are the three fuel types that feed our body?

Answer: Proteins, fats and carbohydrates.

Question: Who can name the two things that make a food high quality?

Answer: 1. Whole, close to the source. 2. Minimally processed. This means the food looks like it did when it came from the source. Our example was a whole apple, it is unprocessed and looks like it did when it came off the tree.

Question: What happens to a food when it is processed?

Answer: It is changed, usually by taking away some of the important nutrients such as vitamins, minerals and fiber. For example, Apple Os cereal doesn't have whole apple in it. It is highly processed and the apples don't look or taste anything like they did when they were whole. Apple sauce is an example of a minimally-processed food – it contains apples that have changed a little bit by cooking and having their skins removed.

Today we are going to learn how to use a food label to decide if a food is high in quality and close to its source.

Let's look at your handout.



PROP: Use the Wheat Bread activity sheet

A food investigator gets clues about their food from two different places on the package, the “nutrition facts label” and the “ingredient list.”

Question: One of these two items (nutrition facts label and ingredients list) tells us in detail what is actually in our food. Who can tell me which it is?

Answer: Ingredient list

The ingredient list details all the things the food manufacturer uses to make the food.

The nutrition facts are the other part of the food label that tells us more information about the food.

This explains the different nutrients that are contained in a food, such as how many grams of protein, fat and carbohydrates.

The nutrition facts always list a serving size, which is the amount of food the manufacturer recommends to eat. The serving size for this food is one slice of bread. All the other facts listed are based on this serving size. For example, if you want to know how much protein you are eating in one slice of bread you can scan down the nutrition facts until you get to protein and right next to it is a number. In this case, it is 5 g – the “g” stands for grams, of protein.

We are going to use bread as our example.

Question: What fuel type is bread?

Answer: Grain carbohydrate.

Look at the activity sheet that says Wheat Bread #1 and Wheat Bread #2. Everyone look at the “Nutrition Facts” for the first bread and put your finger on the words “total carbohydrate.” To use the nutrition facts to understand the quality of bread you need to look at the numbers under “total carbohydrates” because bread is a carbohydrate food.

Question: Who can tell me the two facts listed directly under total carbohydrates? They are slightly indented.

Answer: “Dietary Fiber” and “Sugars.”

Grain carbohydrates provide our bodies with many nutrients, but are most well known for their beneficial fiber. When using the Nutrition Facts to compare these breads, we are going to look at the “dietary fiber.”

The higher the number of fiber grams in a slice (or single serving) of bread, the higher the quality of that bread.

Question: Looking at the nutrition facts label for the first bread, who can tell me how much fiber is in one serving?

Answer: 5 grams. On your activity sheet, write down 5 grams on the blank line next to the words “dietary fiber” under bread #1.

Any bread that offers three or more grams of fiber per serving is usually a high-quality bread. This bread looks like it is high in quality. However, just checking the amount listed in the nutrition facts does not tell the whole story. To make sure this fiber is whole, close to the source and high quality, you need to investigate the ingredient list as well.

Now let’s investigate the ingredient list. We know bread is made from grains which are ground up into flour. A very important fact to know is that ingredients are listed by weight from the greatest to least. Another way to say this is that they are listed from heaviest to lightest.

Question: Knowing that ingredients are listed from greatest to least, what do you think the first

ingredient in bread should be?

Answer: Flour should be the first food listed because it is the main ingredient used to make bread. Flour is made from ground-up grains of any kind such as wheat, rice, oats and rye. Flour is listed first because it is found in the greatest quantity.

Question: Reading the ingredient list on your handout for the first bread listed, who can tell me what type of grain is used in this bread? (Is it rice, corn, rye, wheat...?)

Answer: Wheat. Please write down “wheat” on the blank line next to the words “type of grain” on your handout.

Question: Can anyone tell me the word that best describes a high-quality form of wheat, or other grain, used in bread? In other words, what word tells us the grain is close to the source?

Answer: “Whole.” Whole means the entire grain is used, so it is higher in quality and close to the source. If the ingredient list uses words such as “wheat flour” or “enriched wheat flour” it means the bread is not made from whole grains. In other words, the grain is processed. In our last lesson, you learned that processed means something is changed and usually nutrients are taken away. When a grain is processed, the fiber is taken away.

Please write down “whole” on the blank line after the words “description of wheat.”

You’ve done a great job investigating this bread. You observed that the nutrition facts show us there are 5 grams of fiber in a serving, you read the ingredients to make sure the grains that provide this fiber are whole and that they are listed as the first ingredient.

Now it is your turn to use what you just learned and fill in the worksheet for the second bread on your sheet. I want you to fill in the blanks and decide if this bread is made with the highest quality grains. (optional – they can work with their seat partner).



Docent note: give students 2-3 minutes to work on this activity then call on students to get their answers as you review the correct answers.

Answers for Wheat Bread activity sheet (Wheat Bread #2):

Dietary Fiber = 1 gram

- I mentioned that a higher-quality bread has at least 3 grams of fiber or more per serving and this only has 1 gram. This is going to make me want to read the ingredient list to see exactly what the source of this fiber is.

Type of grain = wheat

- Now we know the type of grain is wheat, but we still don’t know why it has such a low fiber content. By reading the ingredient list you can figure out the quality of the flour by searching for the word or words that describe that grain. If the word whole is not in front of the type of grain, or if there is another word such as “enriched” the grain is probably highly processed.

Description of wheat = Enriched flour

- This bread is made from processed wheat which is farther from the source and lower in quality than a bread made with whole grains.

The last thing I want you to do with this activity is count up the ingredients in the two different breads and write down the number you come up with on the last line under each bread.

Question: Which bread has fewer ingredients?

Answer: Bread #1. It has 14 ingredients compared with the other bread which has 27 ingredients.

Question: Which ingredient list is easier to read? In other words, which has more words you recognize?

Answer: The first bread is easier to read. The second bread has a lot of ingredients that are difficult to pronounce and are not ones generally recognizable.

1. THE FEWER THE INGREDIENTS, THE BETTER

 *Docent note: Write on board "higher-quality food = fewer ingredients"*

2. YOU SHOULD BE ABLE TO RECOGNIZE AND KNOW WHAT THE INGREDIENTS ARE IN YOUR FOOD

 *Docent note: Write on board "You should recognize and know what the ingredients are in your food"*

Let's do one last activity investigating two different types of strawberry fruit spreads. You will find the activity on the other side of your handout.

Question: What fuel type are strawberries?

Answer: Fruit carbohydrate.

Fruits are naturally high in sugar so packaged foods containing fruit often have a fair amount of sugars listed on the nutrition facts label. But just like the bread, reading the amount of sugar listed on the nutrition facts doesn't tell the whole story. It is important to find out the source of the sugar, whether it is from the whole fruit or if it is from an added sugar. Some examples of added sugars are any words ending in "ose" like fructose or sucrose, syrups and fruit concentrates.

Work with your seat partner and compare these two strawberry spreads. Answer the questions at the bottom of the page.

Answers for Fruit Spread activity sheet:

Spread #1

Serving size – 1 tbsp (tablespoon). That is about the size of a large soup spoon.

Amount of sugar – 10 grams

First Ingredient – Strawberry juice. In our last lesson we learned about apple juice and that juice from a fruit makes it processed because many of the nutrients such as fiber are removed. The whole strawberry is not used in this spread.

List of added sugars – corn syrup, high-fructose corn syrup. These are two highly-processed forms of added sugar. Plus, it has a lower-quality ingredient, FD&C Red, which is an artificial color used to make it look red.

Now let's review the answers for the second spread.

Spread #2

Serving size – 1 tbsp (tablespoon) – it has the same serving size, so you know you are comparing equal amounts of the food.

Amount of sugar – 13 grams – it has a little bit more sugar but before we decide this is not a good thing, we need to review the ingredients.

First Ingredient – Strawberries. This is a strawberry spread so you would expect to see strawberries as the first ingredient.

List of added sugars – Concentrated grape juice.

We know that fruit spreads, jams or jellies are sweet and delicious, but after comparing these 2 spreads, the second spread is higher in quality for 3 reasons:

1. The first ingredient is whole fruit.
2. It contains one source of added sugar – concentrated grape juice.
3. The second spread has no artificial colors.

Let's review.

Question: Who can tell me where we look on a food label to get the nutritional value of our food?

Answer: Nutrition Facts

Question: Who can tell me where we look on a food label to learn what exactly is in our food?

Answer: Ingredient list

Question: Who can tell me two clues that help determine a food's quality?

Answer: 1. The fewer ingredients the better 2. You should be able to recognize and know what the ingredients are in your food.

That's our GrowingGreat lesson for today.

Remember to share the Grill Me flyer with your parents.

Thank you and see you at our next lesson.