

# LESSON OUTLINE

## Lesson #4: Start Your Engines – Higher-quality Breakfasts

**Objective:** Students learn that high-quality breakfasts help them think and perform at their best, what constitutes a higher-quality breakfast and how to improve common breakfasts.

### Classroom Lesson Outline:

1. **Review from Lesson #3** 2 minutes
2. **Breakfast is the most important meal of the day** 5 minutes
  - a. Feeds your brain – to perform better on school work
  - b. Gives you energy – to keep you going until lunch
  - c. Better mood – HQ food feeds your cells, makes you happier
3. **What makes a breakfast higher quality** 9 minutes
  - a. Has a combination of higher-quality proteins, fats and carbohydrates
  - b. Analyze nutrition facts for two cereals to make a higher-quality choice
    - i. Measure out added sugars
    - ii. Higher-quality cold cereal breakfast has the following components
      1. Choose high fiber, low added sugar cereal (grain carbohydrate)
      2. Add whole, unsweetened yogurt (protein and fat)
      3. Add whole blueberries (fruit carbohydrate)
4. **Activity** 10 minutes
  - a. Make the lower-quality breakfast higher quality
5. **Review** 2 minutes
6. **Optional Food Sample** 7 minutes



### Recommended Reading

Breakfast: Waking Up to a Healthy Start

You Call That Health Food? by Cassandra Forsythe MS and Adam Campbell

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### California State Standards met by grade

#### 3rd grade:

Students choose and use appropriate units and measurement tools to quantify the properties of objects:

- 1.1 Choose the appropriate tools and units (metric and U.S.) and estimate and measure the length, liquid volume, and weight/mass of given objects.
- 1.4 Carry out simple unit conversions within a system of measurement (e.g., centimeters and meters, hours and minutes).

#### 4th grade:

Students make decisions about how to approach problems:

- 1.1 Analyze problems by identifying relationships, distinguishing relevant from irrelevant information, sequencing and prioritizing information, and observing patterns.
- 1.2 Determine when and how to break a problem into simpler parts.

#### 5th grade

Students use strategies, skills, and concepts in finding solutions:

- 2.1 Use estimation to verify the reasonableness of calculated results.

2.2 Apply strategies and results from simpler problems to more complex problems.

# SCRIPT

## Lesson #4:

### Start Your Engines – Higher-quality Breakfasts

First let's review. In our last lesson, we learned to analyze the nutrition facts label and the ingredient list on packaged food, and we all became food investigators.

**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:** What are two clues from the ingredient list 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.

**Question:** So, my question to you today is, of all the meals of the day, which do you think is most important to eat so you think and perform at your best?  
Give me a show of hands for breakfast?.....lunch?.....dinner?

Well for those of you who said breakfast you are absolutely right!

Today we are going to learn how to identify higher-quality breakfasts.

Breakfast is often skipped because we either sleep in late, so we are in a rush to get out the door, or we just don't feel hungry yet.

**Question:** Do you remember how you felt when you missed eating breakfast?

**Answers:** Answers you can suggest to contribute to get the dialog going: Hard to concentrate at school; Low energy for recess or sports; felt cranky; grouchy; hungry; tired

There are many reasons why breakfast is the most important meal of the day and here are 3 reasons why it really is true:

1. Breakfast feeds your brain. It actually helps you perform better in school. Studies showed that kids who ate a high-quality breakfast performed better in school than kids who skipped.
2. Breakfast gives you energy. A high-quality breakfast gives you lasting energy the whole day – so you perform your best in both school and sports.
3. Breakfast can affect your mood. You may feel happier throughout the day when you eat a

high-quality breakfast because your body's cells are well fueled.

In our lesson on the three types of fuels we need to eat to perform at our best, you learned that proteins are our “grow” foods, carbohydrates are our “go” foods and fats are our “brain” foods.

 *Docent note: Write on board “Proteins = Grow; Carbs = go; Fats = brain”*

All three of these fuels, and the effects they have on your body, are important to consider when selecting a high-quality breakfast.

**Question:** Who can name some high-quality protein foods that you might eat in the morning?

**Answer:** Eggs, certain types of breakfast meats such as ham or sausage, beans in a breakfast burrito.

Proteins are important because they help build the tissues in your body (like muscles) and they keep you feeling full for a long period of time.

**Question:** Who can name some high-quality grain carbohydrate foods you might eat in the morning?

**Answer:** Whole grain toast, oatmeal, millet, quinoa, brown rice, corn.

Whole grain carbohydrates are important because they fuel you for a longer period of time than grains that are not whole or are highly processed. For example, a white bagel made from processed grains or a breakfast cereal with lots of added sugars might give you a short burst of energy, but **like a fuel tank with a hole in it**, they leave your body quickly and you are hungry long before lunch time.

**Question:** What are some whole fruit carbohydrates that are beneficial and tasty in the morning?

**Answer:** (To name a few) – strawberries, banana, kiwi, berries, melons...

Vegetables are not only for dinner. There are many ways to eat your veggies in the morning, too.

**Question:** Who can name some vegetables you can eat in the morning with your breakfast?

**Answer:** If you are creative, you might add spinach, swiss chard or salsa to scrambled eggs or a breakfast burrito.

Like whole grains, whole fruits and vegetables keep you well fueled. For example, eating a whole orange keeps you feeling satisfied longer than a glass of orange juice. The whole orange (minus the peel of course) is digested slowly, giving you sustained energy and keeps you feeling satisfied. Orange juice is digested more quickly, gives you only a short burst of energy and you may feel hungry faster.

**Question:** Beneficial fats help fuel your brain and keep you feeling full for a long period of time. Who can name some beneficial fats you might add to your breakfast?

**Answer:** The right fats, in the right quantity for you, can make food taste better and keep you feeling satisfied. You could add butter, peanut butter or almond butter to toast, cheese to eggs, and avocado to whole grain toast or to a breakfast burrito.

Eating beneficial fats is important because they help your body absorb certain vitamins. For example, if you eat a salad tossed with olive oil, the fat from the oil helps your body absorb the vitamins from the greens and this helps fuel your body and brain.

The goal of a high-quality breakfast is to eat foods that are beneficial to your body, keep you energized and feeling satisfied until your next meal.

A common breakfast is a bowl of cold cereal. These cereals are often made with highly-processed grains and loaded with added sugars. These cereals may fill you up for a short time, but they get digested very fast, and leave your stomach feeling empty and hungry long before lunch rolls around.

We are going to investigate a breakfast of cold cereal and identify one way to add beneficial proteins, fats and carbohydrates to keep you satisfied longer so you can perform better, especially at school.

On your handout, you see two nutrition fact labels and ingredient lists for two different cereals, Apple Os and GrainStore.

Looking at the nutrition facts for Apple Os, I want everyone to locate the serving size.

**Question:** Who can tell me what the serving size is for Apple Os?

**Answer:** One cup.

Everyone circle one cup on your hand out.

Now I want you to locate the sugars, which as we learned in the last lesson, is under “total carbohydrates.”

**Question:** Who can tell me the number of sugar grams in one serving of Apple Os?

**Answer:** 16 grams.

**Question:** Who can tell me where we want to look to identify the source of this sugar?

**Answer:** The ingredient list.

**Question:** Who can tell me the first ingredient in this cereal?

**Answer:** Sugar

**Question:** Thinking back to our last lesson, who can tell me what this might tell us about the amount of sugar in this cereal?

**Answer:** Ingredients are listed from greatest to least. This means sugar is found in the greatest amount in this food.

**Question:** Can anyone identify any other sources of sugar in the ingredient list?


**Answer:** High Fructose Corn Syrup and Apple Juice Concentrate. So we now know the 16

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grams


of sugar in a serving of Apple Os is mostly from added sugars.  
Now we are going to do an experiment to see what 16 grams of sugar looks like.

I need a volunteer.

 PROP: Hold up one serving size prop of the Apple Os

*This is what one cup (or a single serving) of Apple Os looks like.*

*Ok, volunteer. This is a quarter teaspoon and it equals 1 gram. Scoop out 16 grams of sugar into this jar. (optional: have class count out loud as volunteer scoops)*

 PROP: Wait until they are finished and hold up the jar


*This is what 16 grams of sugar looks like. But how many of you eat just one cup of cereal for breakfast?*


 PROP: Hold up one serving size prop of the Apple Os, then the empty cereal bowl

*Here is a typical cereal bowl. If you fill up a bowl this size, you are eating about two cups of cereal.*

**Question:** If you are eating two servings of cereal, how many grams of sugar are you now eating?

**Answer:** It is 32 grams of sugar. You are doubling the serving size so you need to double the amount of sugar to understand how much you are eating.

 Docent note: Ask volunteer to measure out 16 more scoops into the jar. Have the class count out each scoop.

 PROP: Show jar with 32 grams of sugar

*This is what 32 grams of added sugars look like.*

 PROP: Put lid on and pass around jar with 32 grams of sugar.

So now we know this cereal is loaded with a lot of added sugar.

**Question:** Looking at the nutrition facts for Apple Os, can anyone tell me if this cereal has any fiber?

**Answer:** It has less than one gram of fiber, which is pretty low.

**Question:** Do the ingredients list any “whole” grains?

**Answer:** None of the grains say “whole.” So we are not getting a high-quality source of grain carbohydrates with this cereal.

**Question:** How about protein? How many grams of protein are in this cereal?

**Answer:** One gram of protein. Not very much protein.  
Milk has a high protein content so if you add milk to this breakfast, you will get a little more protein.

**Question:** How about fat? How much fat does this nutrition fact label say is contained in a serving?

**Answer:** .5 gram or 1/2 gram. Like the protein, this is not very much. And, if you choose a low fat milk, you are not getting very much beneficial fat from the milk.

So, if you had a big test in school and you wanted to eat a breakfast full of high-quality proteins, fats and carbohydrates so you can think and concentrate at your best, would Apple Os be the best choice?

I know we can find a breakfast that will be more beneficial for your body and brain so you stay satisfied and fueled until lunchtime.

Please look at the nutrition facts on your handout for the GrainStore cereal.

**Question:** Who can tell me the serving size of this cereal?

**Answer:** One cup. When comparing two foods, you always want to make sure the serving sizes are equal.

**Question:** How many grams of fiber does this cereal have?

**Answer:** 16g. That is a lot of fiber! And it is certainly a greater amount than the other cereal.

**Question:** Are there whole grains listed in the ingredients?

**Answer:** Whole wheat.

Does everyone see where it says wheat bran, oat hull fiber, and oat bran? Bran is the part of the whole grain that contains fiber. You can say that bran equals fiber. This cereal not only contains whole wheat, it has extra sources of fiber added to make it higher in fiber.

**Question:** Who can tell me the amount of sugars in this cereal?

**Answer:** 10 grams of sugars.

**Question:** What do you want to investigate to see exactly what makes up these sugars?

**Answer:** Ingredients

**Question:** Looking at the ingredients, can anyone tell me if there are any added sugars?

**Answer:** This is a tricky, but there are two: dehydrated cane juice and barley malt extract, which are both added sugars. However, they are less processed forms of sugar, especially when compared to the high-fructose corn syrup found in the Apple Os.

**Question:** How about proteins – who can tell me how many grams of protein are in a one cup serving of this cereal?

**Answer:** 6 grams – which for a breakfast cereal is a high amount of protein.

**Question:** Does anyone know what the source of this protein is?

**Answer:** This protein comes from the grains. When a whole grain is used in a food, it retains most of its nutrients which includes protein.

**Question:** Is there any fat in this cereal?

**Answer:** There are 2 grams and like the protein, the fat comes from the whole grains.

To summarize the comparison between these two cereals, the GrainStore has:

- More fiber, from a whole grain source
- Less added sugars, and from less processed forms of sugar
- More protein and a small amount of fat

Remember in the beginning of this lesson, we discussed how a HQ breakfast includes high-quality proteins, fats and carbohydrates? Cold cereals are high in carbohydrates and are just one type of breakfast. It is best to have a variety of breakfast choices to choose from every day.



*Docent note: Think about how you will divide your class. It will work best to split them into 4 equal groups so each can be assigned a breakfast to analyze. You can have kids move to different areas of the classroom and sit on the floor as a group or have half the group kneel across the desk from seated students. Each classroom set up is different, so organize this however it will work best for you.*

*Assign each group 1 of the 4 breakfasts and instruct them to fill out the sheet with the improved breakfast ideas they come up with.*

I am going to divide you into groups. On the backside of your handout are several different breakfasts listed. The first column is titled “lower quality” and contains breakfasts which are low in beneficial proteins, fats or carbohydrates and contain a lot of added sugars. You will work with your group to identify why the first breakfast is lower in quality then fill out the second column titled “higher quality”. Create one or more ways to make this breakfast higher-quality by

- Including foods high in beneficial proteins, fats and carbohydrates
- When choosing carbohydrates, **don’t forget to include both choices from the grain and fruit and vegetable categories**

Discuss what makes your choices higher in quality.

Pick a speaker for your group and when everyone is finished, that speaker will present your group’s higher-quality breakfast choices.

The first example is completed for you. Donuts are deep fried, which we know is a low-quality fat. They are also loaded with sugars. Chocolate milk does contain milk, but in addition, it has a lot of added sugar to make it sweet. One option is to have a whole grain bagel – I chose a half because bagels are usually very large and ½ half is typically a single serving size. For my fat, I chose almond or peanut butter.

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Nuts are also high in protein, so this is also an additional source of protein. And for a drink, I chose milk or soy milk is another option.

There is no single, right answer. Put down as many different choices as you want. Different families have different cultures that eat a variety of different foods. Be creative in your choices, especially if your family eats traditional breakfasts from another country.



*Docent note: Allow 5-7 minutes for them to do their assigned breakfast category. Call on groups to hear their answers, making sure to emphasize the important points of each different example as provided on your answer sheet.*

Let's review what we discovered today:

We discovered we can make higher-quality choices at breakfast that will help us throughout our day.

We learned breakfast is an important meal, not to be missed.

There are many reasons why breakfast is the most important meal of the day and here are 3 reasons why it is especially true:

1. Breakfast feeds your brain. 2. Breakfast gives you energy. 3. Breakfast can affect your mood.

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.