

LESSON OUTLINE

RETURNING STUDENTS

REVIEW OF VOLUME 3

Lesson #1: **Feed Your Engine Proteins, Fats and Carbohydrates**

Objective: Students who received GrowingGreat lessons in previous school year review concepts learned and play an interactive Review Game to reinforce concepts.

Classroom Lesson Outline:

1. Introduction 2 minutes

2. Review 13 minutes

- a. High-quality Proteins, Fats and Carbohydrates (P, F, Cs for short) are the fuels our bodies need to perform at their best
- b. High-quality foods are whole, close to the source, minimally processed with fewer added ingredients
- c. Serving sizes help us to determine the right amount of food our bodies need
- d. Digestion is the process of breaking down the food we eat to provide our bodies with the nutrients and energy they need
- e. Elimination and Hydration: eliminate waste and run smoothly with plenty of water.

3. Review Game 15 minutes

4. Optional Food Sample 5 minutes



Recommended Reading

(For 4th and 5th grade docents)

- Volume 3 lesson review

(For all new docents)

- Meat, vegetable and dairy proteins
- Vegetable and fruit, grain carbohydrates
- Beneficial fats by Linda Prout, MS

SCRIPT

Lesson #1: Returning Students Review and Game

Introduction

Hi, my name is _____ and I will be your GrowingGreat Docent this year.

I will be teaching you a lot of great information in a short amount of time so I really need your cooperation.



Docent Note: Review with students your expectations of their behavior

Last year in GG we learned a lot about making healthy food choices. We learned:

1. High-quality Proteins, Fats and Carbohydrates (P, F, Cs for short) are the fuels our body needs to perform at its best.
2. Foods that are whole, close to the source, minimally processed with the fewest added ingredients are the best foods to fuel our bodies.
3. What an appropriate serving size looks like.
4. We followed the pathway of digestion and learned how our bodies break down food so our body absorbs the nutrients it needs.
5. Our final lesson was about elimination and the importance of drinking enough water.



Docent note: This should be very interactive. Try and get the kids involved and talking but keep them on topic. Call on 2-3 kids when multiple answers are needed. After about 15 minutes move on to the game even if you haven't covered the whole review.

Last year we learned about the similarities between the fuel our cars need and the fuel our bodies need to perform at its best. The car needs only **one** type of fuel to run, but our bodies need a combination of **three** types of fuels to help it perform at its best.

Question: Can anyone name the three fuels our bodies need? *(Use the term PFC if they need help)*

Answer: Proteins, Fats and Carbohydrates.

Question: Proteins help our muscles and tissues grow and are called our “Grow” foods. There are different types of proteins – animal, vegetable and dairy. Can anyone name a high-quality protein?

Answer: Animal protein (fresh fish, chicken, beef, pork or eggs) vegetable protein (beans, peas, lentils, tofu, nuts and seeds) and Dairy Protein (cheese, yogurt and milk).

Question: Beneficial fats help us think and perform at our best. Fats are our “Brain” foods. Can anyone name a high quality food that contains beneficial fat?

Answer: We learned that not all fat is bad for you and that fats which help you are called beneficial fats. Examples are butter, avocado, olive oil, nuts and seeds, and some fish like salmon.

Question: Carbohydrates are our “Go” foods because they give us quick and long lasting energy. Can someone name a high-quality carbohydrate?

Answer: We learned about different types of carbohydrates: Whole grains (breads, cereals, crackers, rice and pasta made with whole grains such as wheat or rice) and whole fruits and vegetables.

Just like cars we can't put any fuel in our bodies and expect it to run smoothly. We need to put in the right fuel that our bodies need. In order for our bodies to perform at its best we need to make sure the fuel we put in it is High Quality.

Question: Does anyone remember what **three** things make a food higher quality?

Answer: 1.) whole, 2.) closest to the source, 3.) minimally processed with fewer added ingredients.

Whole foods, closest to the source, look like they did when they came from nature. Milk is an example of a high-quality food. Milk is whole, close to the source (it looks like it does when it is milked from the cow), minimally processed (not much has changed since it was milked from the cow) and has minimal added ingredients (usually vitamin D. An example of milk with many added ingredients is chocolate or strawberry flavored milk).

Question: Milk can be processed or changed into many different foods. Can anyone name some foods that are made from milk?

Answer: Ice cream, cream cheese, cheese, cottage cheese, yogurt... Real cheese and unsweetened yogurt are examples of minimally-processed with not very many added ingredients and are made from milk.

Question: What part of a packaged food label offers us a clue as to whether it is minimally processed?

Answer: Read the ingredient list on the label. Usually, the fewer ingredients listed means it is less processed and closer to the source. Some yogurts have very long lists of ingredients and are highly processed.

Eating High-Quality foods is very important in keeping our bodies healthy.

Question: Can we eat an unlimited amount of High-Quality foods?

Answer: No, eating too much at any meal may make us feel sick, bloated, gassy, tired or can give us a stomach ache.

To feel our best we need to eat the right amount of food. The key to choosing the right amount of food is to start with the correct Serving Size.

Question: Can anyone tell me what the definition of a serving size is?

Answer: A measured amount of food usually the suggested amount you should eat. An example would be a cup of milk or a tablespoon of peanut butter.

It is easy to find the serving size for foods that come in a package because you can look on the nutrition label. You need to read carefully because most packages contain more than one serving. It is a little

2

more challenging to figure out serving sizes for foods that don't come in a package. Last year we learned some helpful hints to make choosing the right serving size easier.

Question: The serving size of protein is about 3 oz. Who remembers how to estimate a 3 ounce serving?

Answer: The palm of your hand not including your fingers.

Question: What object can be used to estimate a serving of fruits and vegetables?

Answer: The size of a tennis ball.

Question: What should a serving size of snack foods like chips, crackers or nuts be?

Answer: Only 1-2 handfuls.

By selecting the correct serving size you can fit a variety of colorful high-quality foods on your plate.

Question: I mentioned the word colorful. Does anyone remember what two beneficial substances we find in colorful fruits and vegetables? (hint: one of them has the word "fight" in it and the other has the word "anti")

Answer: Phytonutrients and antioxidants.

Phytonutrients are what make fruits and vegetables brightly colored and help fight off disease. Antioxidants are a type of phytonutrient that gobble up the harmful molecules in our bodies.

When we choose the right amount of high-quality P, F and Cs for our body, we receive a great balance of nutrients to feel and perform at our best. Before our body absorbs the nutrients from the food we eat, it has to go through a process.

Question: Does anyone know the system our body goes through when we eat food?

Answer: Digestion.

Digestion is the process by which our body breaks down food into smaller and smaller pieces so that it is ready to be used as fuel or energy.

We learned about the many steps of digestion and the pathway our food must go through to be broken down. Our bodies digest our food so we can take out or absorb the nutrients and deliver them to our cells.

Question: Where does digestion start?

Answer: The brain. It starts when you see, smell or even think about food.

The next step is in the mouth. We start to break down food by chewing. Saliva, which contains digestive enzymes, is added and helps break down the food further. We should chew each bite of food 10-20 times. (Remember the chewing activity?)

Question: Where does your food go after you finish chewing?

Answer: The esophagus which is a 10 inch muscle that pulls the food down to the stomach.

Remember that the stomach is a big muscle that squeezes the food to break it down even further. Stomach enzymes and acid are also added to help turn your food into thick liquid. (We experimented with this process by using the sugar cube and water).

Question: Where does the food go when it leaves the stomach?

Answer: The small intestine which is about 22 feet long!

Most of the absorption happens here. The small intestine gets help from the liver, gallbladder and pancreas to absorb all the nutrients it needs to nourish itself.

Everything that is left over and not absorbed is considered waste and then travels to the large intestine for the final stage of digestion. This undigested material that your body can not use needs to be eliminated from your body. It is the job of the large intestine to store unused undigested food until it is eliminated.

Question: Can anyone name 2 things needed in your diet to help with elimination?

Answer: Fiber and water.

Question: Your body uses about 2 gallons of water a day for digestion. How much water a day should you be drinking?

Answer: Eight 8oz. cups. You should drink even more if you are playing sports or if it's very hot outside.

We also get water our bodies need from eating foods that contain water. Some foods that have a high water content are celery, watermelon, lettuce and most fruits and vegetables.

Question: Does anyone remember a fruit or vegetable from the activity we did last year that is very high in water?

Answer: Broccoli (91% water) Whole Wheat Bread (33% water) Celery (95% water) lettuce (93% water) Watermelon (97% water)

Fiber is the part of food that can't be digested. This undigested material helps eliminate and cleans out our intestine by acting like a broom.

Question: What foods are high in fiber?

Answer: Fruits and vegetables (especially their edible skins!) and whole grains such as whole wheat, oats, brown rice)

That is the end of our review of last year's lessons, Now I am going to test your nutrition IQ by playing The GrowingGreat Review Challenge Game.

GrowingGreat Review Challenge Game

INSTRUCTIONS

Set up game on white board

- Place review game category labels in a line on board, preferably in order of the answer sheet.
- Number under each category the point range 1, 2, 3, 4, 5.
- Erase the number under the appropriate category when it is answered correctly and the team earns that point amount.

Set up class

- Divide the students into groups (of approx. 5-6 kids each).
- Designate one student in each group to keep score during the game.
- Instruct students they will work together as a group.
- Docent calls on a group; they select their point level question – the higher the points, the harder the question.
- Using the question and answer sheet, docent gives group a question. The goal is to work together to come up with one answer to present as a group. The group has 10 seconds to come up with an answer or the next group gets a chance to answer.
- If the answer is correct that group is awarded points based on the point level of the question. If incorrect, the group gets one more chance to answer, but the second time it's only worth half the points. (So if it was a 5 point question you will only get 2-1/2 points).
- If the question isn't answered correctly after 2 tries it goes back up on the board.
- After a group is finished with one question it's the next team's turn.
- Play the game until all the questions have been answered or you run out of time.
- At the end of the game, the team with the most points wins. (However, emphasize that everyone did a great job!)

Lesson #1:

GrowingGreat Review Challenge Game Questions from Volume 3



Docent Note: Please feel free to give bonus points for clever answers or if more (correct) information is given than asked for.

Serving Size

- Q.** Where do you find serving size information on packaged foods?
A. Nutrition label.
- Q.** T or F? Restaurants give you smaller than recommended serving sizes.
A. F-They give you larger than recommended portions.
- Q.** A serving of chicken or fish should be the size of?
A. The palm of your hand (not including your fingers)
- Q.** What is the definition of a serving size?
A. The recommended amount of food you should eat.
- Q.** What can you do if you are served a very large portion of food at a restaurant?
A. Share your food, take it home for another meal or just don't eat it all.

Digestion

- Q.** Where does the first step of digestion take place?
A. The brain.
- Q.** How many times should you chew each bite of food?
A. 10-20 times
- Q.** T or F? The stomach's only job is to store food until it travels to the small intestine.
A. F. The stomach's job is to break down your food both mechanically and with digestive enzymes into a thick liquid.
- Q.** How long is the small intestine?
A. About 22 feet long.
- Q.** Name the pathway your food takes when you're finished chewing it. (Hint: name 4 organs)
A. Esophagus, stomach, small intestine and large intestine (colon).

Elimination

- Q.** What 2 things should you include in your diet to help with elimination?
A. Water and fiber.

2. **Q.** How much water should you drink each day to help your body with digestion?
A. 8 cups.
3. **Q.** What is the name of the organ that stores waste until it can be eliminated?
A. Large intestine or colon.
4. **Q.** Name 2 foods that have a high water content?
A. Most fruits and vegetables have a high water content.
5. **Q.** What are the substances called that gobble up harmful things in your body?
A. Antioxidants.

P, F, Cs

1. **Q.** What are the 3 fuels our bodies need to perform at it's best?
A. Proteins, fats and carbohydrates.
2. **Q.** Which fuel is considered our "Grow" food?
A. Proteins. They help our muscles and tissues grow.
3. **Q.** Name 2 high-quality "Go" foods.
A. Accept any high-quality carbohydrate foods
4. **Q.** Chicken, fish and beef belong to what fuel group?
A. Protein (animal)
5. **Q.** Spaghetti with meatballs contains what fuel group(s)?
A. All of them. Noodles - C, meatballs - P and F, sauce - C

High-Quality Foods

1. **Q.** A salad with whole, fresh vegetables is a HQ or LQ food choice?
A. High Quality
2. **Q.** List 4 things that make a food high-quality.
A. Whole; close to the source; unprocessed; with few added ingredients.
3. **Q.** How do we know if a packaged food is highly processed?
A. It has a long list of ingredients.
4. **Q.** Name one HQ and one LQ food that comes from the source of apples?
A. HQ - unsweetened apple sauce. LQ - Anything highly processed or with a lot of ingredients.
5. **Q.** Change this to a higher-quality sandwich: Bologna sandwich on white bread with American cheese.
A. Any fresh meat, like turkey or chicken, on whole grain bread; real cheese, like cheddar or jack; and add some vegetables like lettuce or tomato.

Miscellaneous

1. **Q.** GrowingGreat teaches you about?
A. Nutrition, making healthy food choices.
2. **Q.** T or F - You should ALWAYS avoid low-quality foods.
A. F - But choose higher-quality foods more often than lower-quality foods.
3. **Q.** Name 2 things you learned in GrowingGreat last year?
A. Accept anything they learned.
4. **Q.** Where do you find Phytonutrients.
A. Brightly colored fruits and vegetables.
5. **Q.** Why do you think it is important to make healthier food choices?
A. Accept appropriate answer