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Cornell Cooperative Extension of Suffolk County
Department of Family Medicine at Stony Brook Medical Center

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The New York State Department of Health, Mary Lasker Heart and
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NUTRITION UNIT

6TH GRADE

LESSON 3 - MILK AND MEAT GROUP

OBJECTIVES

- Students will recognize where the Milk and Meat Groups are in the Food Guide Pyramid, and the foods in these groups.
- Students will be able to identify the nutrients in foods in the Milk and Meat Groups.
- Students will be able to identify the recommended number of daily servings from the Milk and Meat Groups.

MATERIALS NEEDED

Provided in the curriculum

paper bone

What's in the Milk I Drink worksheet

Survey of Students' Milk Consumption

Other

hole puncher

food packages for the fat display, including containers of whole, 2%, 1% and

skim milk

deck of cards

Materials adapted from Frischie, S. and Konzelmann, KL. Exploring the Food Pyramid with Professor Popcorn. Purdue University Cooperative Extension Service, West Lafayette, IN, 1993.

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REVIEW

How many people had 2 servings of fruit yesterday? How many people had 3 servings of vegetables yesterday. Has anyone tried a new vegetable since last class? Why is it important to eat 5 servings of fruits and vegetables a day? What are phytochemicals?

INTRODUCTION

MILK GROUP

Most foods from the Milk and Meat Groups come from animals. Plant foods that are in the meat group include peanuts, dried beans and peas, and soy products like tofu. The foods in the Grain, Fruit and Vegetable Groups come from plants. Foods in both the Milk and Meat Groups are high in protein. Protein is important for muscle growth, repair and maintenance. Milk foods are also high in vitamin D and riboflavin.

Exploring Bones - Have students stand, and place their hands on their ribs. Breathe deeply. Can you feel your ribs move? Ribs protect the organs inside your body, such as your heart and lungs. Rub your hands over your head. Your hard skull protects your brain. Feel the long bones in your arms and legs, and your spine. These bones help you move and bend. Pretend you don't have any bones. How would you sit, stand, or walk.

Explain that kids grow taller because bones grow longer. Bones need calcium to be strong and hard. Do the adults you know drink milk? Many adults don't think they need calcium anymore because they are not growing. However, they still need calcium to keep their bones strong, and to prevent a disease called osteoporosis that makes bones weak and easy to break. Although it is possible to get enough calcium without drinking milk, it

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is very hard and requires a lot of planning to include enough vegetables and other foods like tofu that have calcium.

Hold up paper “bone” and ask students to imagine that the bone is full of calcium. Then ask several students to punch holes in the bone with the hole puncher, pretending that the pieces removed are calcium. Without calcium, the bone is weak. Bones in people with osteoporosis are often described as Swiss cheese.

Bones also provide a place for muscles to attach. When muscles contract they pull on bones to make them move. It is important for athletes to have strong muscles, but they also have to have strong bones to work with the muscles. Some athletes who do not eat enough calcium are more likely to get stress fractures. Stress fractures are small or hairline fractures in bones. They can be painful and decrease the athletes’ sports performance. They may also cause the athlete to miss many practices and games.

Three servings of dairy foods are recommended each day. Adults may only need 2 servings because they are not growing anymore and only have to maintain the bone mass they already have. A serving is equal to 1 cup of milk or yogurt, 1-1/2 ounces of natural cheese and 2 ounces of processed cheese. An ounce of cheese is about equal to an individually sliced piece of cheese.

Do you drink milk? What kind of milk do you drink at home? What kind of milk do you drink at school? Ask about each type of milk, and have students raise their hands. Graph the types of milk students drink at home and at school with bar graphs drawn on the blackboard. Use the Survey of Students’ Milk Consumption graph included to assist you in setting up your classes’ graphs.

You can also ask students how many servings from the milk group they take each day, and set up similar graphs with the following categories on the bottom: 0 servings per day, 1 serving per day, 2 servings per day, 3 servings per day, more than 3 servings per day.

Different kinds of milk contain different amounts of fat. Although we need milk for the calcium, protein, vitamin D and riboflavin it has, we don't need all the fat that is in whole milk.

MEAT GROUP

The meat group includes foods that are high in protein and B vitamins. Although many of the food in this group are animal foods, there are also plant sources of protein. The animal sources of protein, such as chicken, fish, beef, lamb, pork and eggs are also high in zinc, vitamin B2, niacin, B6, B12, copper, chromium, and red meats are high in iron. Plant sources of protein, include dry beans, (such as kidney beans, navy beans, garbonzo beans, and white beans), dry peas, peanut butter and nuts. These foods are high in vitamin E, B2, niacin, B6, folacin, calcium, potassium, iron, and chromium. These foods vary in their fat content.

Protein is very important. All parts of your body, from your brain to your bones to your biceps, are made up of protein. Everyday, old body cells wear out and are broken down or lost from the body. That includes muscle cells, bone cells, stomach cells, etc. Your body uses protein to make new cells, as well as to maintain and repair older cells. Protein is also needed for muscle growth. When you exercise specific muscles, your body sends chemical messages through your blood and nervous system to repair and

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rebuild muscles stronger and bigger. To respond to these messages, your body needs adequate protein in your diet. However, just eating large quantities of protein will not cause your muscles to grow. In addition to these factors, your body needs to be at a stage of growth and development during which hormone levels can support this type of muscle growth and development.

Your body needs extra protein when growing or recovering from an injury. If it doesn't get enough protein, growth may be slower, diseases and infections could develop, and healing and recovery could take longer.

You should eat 2 servings from the Meat Group everyday. A serving of meat is about the size of a deck of cards, 2 to 3 ounces of cooked lean meat, poultry or fish, 1/2 cup of cooked dried beans, 1 egg, 2 tablespoons of peanut butter. Pass around a deck of cards for students to put in their hands and compare to the size of their hand.

Foods in the meat group also have fat. Fat gives us energy, and makes hair and skin healthy. But we are always hearing we should eat less fat. We need some fat, but most of us eat too much fat... much more than we need. Too much fat can make us gain excess weight, which may be uncomfortable, keep us from being very active, or take away from our sports performance.

ACTIVITY

WHAT'S IN THE MILK I DRINK

Have students complete the What's in the Milk I drink handout. Have a class discussion on the last question regarding the sugar in low fat chocolate milk.

CONCLUSIONS

- Foods in the Milk and Meat Groups of the Food Guide Pyramid are in the third level.
- These foods provide protein and many other vitamins and minerals, such as calcium, iron, vitamin A, vitamin D, and many B vitamins.
- People your age need 3 servings from the milk groups and 2 servings from the meat group to be healthy and fit.

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