

What's For Dinner in Antarctica?

Integration: Health (nutrition; personal health)

Grade Levels: K-3

Time: 2-4 class periods

Materials:

- Food guide pyramid (teacher-made bulletin board)
- Magazines or pictures of different foods
- Scissors
- *Food guide pyramid* handout (optional)
- Index cards (optional)

Objectives:

Students will:

1. Discuss the types of food that make up a healthy diet.
2. Analyze menus.
3. Understand what Antarctica explorers eat and why their diets differ from the students.

Lesson:

1. Ask students the following questions:
 - a. What helps the body grow? (exercise, sleep, rest, good health habits, food)
 - b. Do all food help the body grow? (No, some foods are not very helpful, especially those that contain only water or sugar and high amounts of fat. Also, the body needs many kinds of food to grow properly.)
 - c. How can you help your body grow? (You can help your body grow by eating the right kinds and amounts of food, by exercising regularly, and by getting enough sleep.)
 - d. Eating properly helps you grow. What else does it do for you? (Eating well gives you energy to do the things you want. It also keeps you healthy and prevents sickness.)
 - e. Name foods that help you grow, give you energy, and keep you healthy. (Encourage answers from a variety of food groups.)
2. Refer to the Food Guide Pyramid. Explain that the shape of the pyramid tells us how much of the foods in each group we should eat. Briefly discuss the six groups and the categories of each. Be sure to point out the top of the pyramid (fats, oils and sweets). Ask students which foods fit into this category.
3. Divide class into five groups.

- a. Assign each group one of the food groups (excluding fats and oils).
- b. Ask students to find magazine pictures of foods that belong in their assigned category for the next part of the lesson. (Older students can cut pictures from magazines; provide the pictures to younger students.)

ALTERNATIVE: Assign students to find pictures as a homework assignment.

4. Explain the origin of the Food Guide Pyramid.
 - a. Two government agencies, the U.S. Department of Agriculture (USDA) and the Department of Health and Human Services (DHHS), developed the set of guidelines shown in the pyramid. The pyramid explains what and how much we should eat to be healthy. The pyramid shows that a healthy diet should contain more grains, fruits, and vegetables, and less meat and dairy products. It also tells us how to limit fats and sugars.
5. Discuss each food group.
 - a. As you discuss each group, invite students who have pictures of foods in that group to post them on the bulletin board close to the corresponding part of the Food Guide Pyramid.
 - b. Point out the small part at the top of the pyramid. Stimulate a discussion using these questions:
 - What does the size of this space tell us? (We should only eat a small amount of high fat, high sugar foods.)
 - Why do many favorite snack foods fall in this category? (Many snack foods are high in fat and sugar, such as chips, french fries, candy, and cookies.)
 - What does this tell us about how much of these foods we should eat? (We should eat less fatty and sugary foods. We should eat more vegetables and fruits for our snacks.)
6. Highlight any ethnic foods. Point out that people from different backgrounds can eat a variety of different foods, but still have a balanced diet. For example, some people eat a lot of rice, while others eat noodles, but these are both in the grain category. There are many correct or healthy ways to eat.
7. Play the game, "My Menu."
 - a. Provide brief meal menus and ask students to place each food in the correct group. For example: My menu last night was roasted chicken (meat), rice (grains), broccoli (fruits and vegetables), salad (fruits and vegetables), milk (dairy), cookies (fats and sweets), and ice cream (dairy).
 - b. Have the class decide if the menu was a healthy one.
 - c. Allow students the opportunity to make up menus and repeat the steps for each menu.

ALTERNATIVE: Have students keep track of what they eat for one day and place each food in the correct group.

8. Ask students to name a favorite snack and identify the category in which it belongs. (Refer to the Food Guide Pyramid materials.)
 - a. Invite students to suggest alternatives to salty and sugary snack foods.
9. Conclude the class by offering a selection of healthy snacks such as apple slices, carrot sticks, raisins, dates, granola snacks, or graham crackers.
10. Tell students that there are times when a healthy diet cannot be followed. Explain that these times are only temporary and that only certain people should change their diets this way.
11. Remind students that they should not eat a lot of fat. Tell students that fats contain a lot of calories.
 - a. Calories are a measure of how much energy comes from the food.
 - b. When you eat a lot of calories, you have to burn a lot of energy or you will gain weight. People burn a few calories just by sitting or sleeping. They burn a lot more calories when they are exercising or working hard.
 - c. The more calories you eat, the harder you have to work to keep your weight under control.
12. Introduce a discussion of the Bancroft Arnesen Expedition.
 - a. Remind students that Ann Bancroft and Liv Arnesen are women who will ski across Antarctica in 100 days.
 - b. Remind students that they will ski for 8 to 14 hours every day.
13. Ask students if they think that the Expedition is hard work. Tell students that not only will Ann and Liv use a lot of energy to ski across Antarctica but their bodies will need a lot of energy to stay warm in the extreme cold.
14. Refer to Ann and Liv's daily menu (read to students or write on the board):
 - a. Breakfast: Usually oatmeal or porridge, made with brown sugar, butter, and oil. Sometimes potatoes also made with lots of butter and oil. They also drink cocoa sometimes with butter in it.
 - b. Lunch: high-energy bars, chocolate, marzipan, and "sport" drinks.
 - c. Dinner: Ann and Liv will prepare noodle and rice dinners before they go to Antarctica. When they are going to eat, they will add hot water, oil, cheese, butter, and sometimes fish or meat. They will drink sweet drinks or cocoa.
 - d. They will have special treats for days like Christmas.
15. Ask students questions about Ann and Liv's menu:
 - a. What does Ann and Liv's menu contain a lot of? (fat)
 - b. Do you think that Ann and Liv eat a balanced diet on the Expedition? (no)
 - c. Do they eat a variety of foods? (no)
 - d. What types of foods are missing from their menu? (fruits and vegetables; there aren't many grains or meats or dairy either).

- e. Why do you think these foods are missing? (they are hard to prepare on an expedition; they will not stay fresh for very long).
 - f. Would you like to eat the things that Ann and Liv eat on expeditions?
16. Place Ann and Liv's menu on the Food Guide Pyramid. (**optional**)
- a. Place the names of the foods on index cards. Include more than one card for oil and butter as needed.
 - b. Have students place the index cards in the correct groups on the Food Guide Pyramid.
 - c. Discuss the results.
17. Tell students that Ann and Liv need foods that will give them a lot of energy but they also have to be easy to prepare.
- a. They will cook their food on a small stove that is used for camping.
 - b. They will not be able to cook elaborate meals.
 - c. The food cannot have a lot of packaging because they have to carry the extra weight and then carry the trash away with them.
18. Remind students that this type of diet is not healthy for people living in warm climates who do not exercise as much or work as hard as Antarctic explorers. Inform students that Ann and Liv will return to their healthy, balanced diets when they return home from Antarctica.

Assessment:

Teachers will assess:

1. Student's explanation of a healthy, balanced diet.
2. Student's ability to analyze menus.
3. Student's differentiation between the explorers' diets and a balanced diet.
4. Student's understanding of the reasons behind the food choices of explorers.