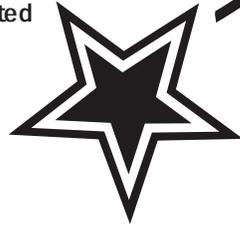


MISSION NUTRITION*

MISSION PLANS FOR GRADES 4-5 **MISSION 2** EXPLORING VITAMINS AND MINERALS

Adventures in learning, created
by Canadian dietitians



Students explore the roles of vitamins and minerals and the need for a variety of foods to provide the body with a healthy balance.

Learning Expectations:

1. Understand the need for vitamins and minerals from a variety of foods.
2. Identify the different roles of vitamins and minerals.
3. Recognize foods that provide different vitamins and minerals.

Subject Links: Health, Language, Science, Drama

Materials & Resources:

- ☆ Dictionaries, encyclopedias and the Internet
- ☆ Local Dietitians, for example those working in your local health department

See the Teacher Notes at the back of this resource (on pages 23-26) for more information on this mission.

Class Discussion:

The *MISSION NUTRITION** Team wants to learn about the vitamins and minerals people need for good health. As a class, brainstorm a list of all the vitamins and minerals that students know.

For each one that they name, ask if they know what it does for them. For example, calcium helps build and maintain strong bones and teeth. Try to identify and list some of the best food sources for each vitamin and mineral as well. An overview of key nutrients, their functions and sources is included in the *Teacher Notes*.

Teaching Tip:

Our bodies need more than 50 different nutrients to stay healthy. Ask students to look up the words "nutrient", "vitamin" and "mineral" on the Internet, in a dictionary or encyclopedia. Have them write out a definition of each including what they are, why we need them and where they can be found.

Activities:

1. The *MISSION NUTRITION** Team wants to know what will happen if you don't get enough calcium. As a class or in small groups, conduct the following chicken bone experiment to illustrate how bones get weak when they are depleted of calcium. Take a bone from a cooked chicken leg. Remove all the meat and wash the bone. Try to bend the bone and observe how hard it is to bend or break. Place the bone in a jar filled with vinegar, cover with a lid and leave overnight. Check the bone each day for the next week. To do this, rinse the vinegar off the bone with water. Try bending or breaking the bone again. Then replace the bone in the jar and cover. Ask students to describe their observations. Why did the bone gradually become softer and easier to bend?

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Continued

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The bones lose strength as the vinegar removes calcium from them. In our bodies, calcium moves out of our bones daily to do other jobs. Your calcium supply needs to be replenished or your body will gradually remove calcium from your bones making them weak and easier to break. It is important to reinforce with students that eating foods with vinegar will not have this effect on bones. This is just a simulation of what happens when you do not eat enough calcium rich foods.

2. Name that vitamin! See if students can help the *MISSION NUTRITION** Team solve these A, B, C... vitamin mysteries:

In the past, pilots that flew at night were encouraged to eat lots of carrots to improve their night vision. The same vitamin that helps you see at night is also important for healthy skin and growth. This vitamin is found in orange vegetables and fruits and at the very beginning of the alphabet. (Vitamin A)

This group of vitamins helps release the energy from carbohydrates for your body to use. They can be found in grain products, meats and alternatives. (B-vitamins)

Years ago sailors on long voyages suffered from a mysterious illness called scurvy because they didn't have any fresh fruits to eat on board their ships. In the 19th century they discovered that they could avoid this illness by bringing lemons to eat. What vitamin in lemons and other fruits and vegetables helps to keep your blood and skin healthy? (Vitamin C)

Bent bones from skeletons found in Pyramids dating back 5000 years ago, indicate to scientists that some ancient Egyptians were lacking in this vitamin. It helps your body absorb calcium to build strong bones. You can find it in fluid milk and fortified soy beverages. It's also known as the sunshine vitamin. (Vitamin D)

3. Divide the class into groups of three. Assign a vitamin or mineral to each group secretly, including vitamins A, C, E, B-vitamins, iron, calcium and zinc. Ask each group to research their nutrient without telling other groups which nutrient they are researching. Then have each group dramatize the journey their nutrient takes through the body. The dialogue should communicate their job as a nutrient, how important they are and where they can be found, while classmates try to guess the nutrient.

Student Mission 2 Vitamin and Mineral Match

*Handy-bot** needs help making the right connections between the vitamins and minerals listed on this activity sheet and their primary functions. Students will best be able to complete this activity sheet after they have done the other activities in this Mission.

Use the following Answer Key for this activity sheet

Answer Key for Student Mission 2

1. Iron
2. Vitamin D
3. Vitamin K
4. Zinc
5. Phosphorus
6. Vitamin C
7. B Vitamins
8. Vitamin A
9. Calcium
10. Vitamin E



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Students explore and interpret the ingredient and nutrition information featured on the food labels of a variety of food products.

Learning Expectations:

1. Identify critical content information on food labels (e.g., ingredients, calories, fat, protein, carbohydrate, fibre, vitamin and mineral content).
2. Read and interpret basic information of food labels.

Subject Links:

Health, Information Technology, Language

Materials & Resources:

- ☆ Food packaging with nutrition labels (provided by students or teacher)
- ☆ Look for more information on Canada's nutrition labelling system at
www.hc-sc.gc.ca/nl/nl-label-etiquet/index_e.html
www.healthyeatingisinstore.ca
www.dietitians.ca/eatwell
(visit the virtual grocery store)
- ☆ Construction paper

See the Teacher Notes at the back of this resource (on pages 23-26) for more information on this mission.

Class Discussion:

Have students complete the *Home Connection* activity before this class discussion. Ask each student to bring the empty food packages they collect at home to

examine in class for this discussion. The following questions will help students identify and interpret the basic information found on food labels:

- ☆ Find the ingredient list on your package. Why must all food packaging include this list? In what order do the ingredients appear on this list?
- ☆ Does your package have a Nutrition Facts table? What does it list?
- ☆ Are there any claims about the nutritional content, such as "low fat" or "high fibre" or health benefits of the product on your package? If so, what are they?
- ☆ How can people with a food allergy use food labels to avoid ingredients they may react to?

Allergy Awareness: To ensure safety, always check with students and their parents for any food allergies before activities that involve bringing foods or food packaging into the classroom. The ingredient list found on food labels is especially useful for identifying ingredients that may cause an allergic reaction.

Allergy and Anaphylaxis Resources:

- ☆ Calgary Allergy Network - School Related Resources
www.calgaryallergy.ca/Article.html#school
- ☆ Allergy and Asthma Information Association: www.aaia.ca
- ☆ Anaphylaxis Canada: www.anaphylaxis.ca or ph: 1-866-785-5660

Teaching Tip:

In Canada, nutrition labelling is mandatory on most packaged foods. Healthy Eating Is In Store for You (www.healthyeatingisinstore.ca) is a joint initiative of Dietitians of Canada and the Canadian Diabetes Association to educate Canadians about using the nutrition label to make healthy food choices.

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MISSION PLANS FOR GRADES 4-5
MISSION 3
EXPLORING FOOD LABELS



Continued

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See the *Teacher Notes* for further information on the ingredient list, nutrition information panel, nutrient content claims and health claims students may find on their packages. These notes also include information on how people with allergies can use food labels.

Activities :

1. Allow time in class or in the computer lab for students to explore information on Canada's nutrition labelling system available on the web sites suggested under *Materials & Resources*. The *Healthy Eating is in Store for You* web site www.healthyeatingisinstore.ca will have a presentation for educators, educational fact sheets and a virtual grocery store tour. If time permits you may wish to have a class discussion on new information they learned on the Internet. Although these resources are intended for adults, they should help students develop label reading skills.
2. Divide the class into groups of four or five students. Using the packaging they have collected ask each group to observe and discuss in more detail the nutrition information found on the different labels and record their observations. Using the nutrition labels students can then complete the *Take a Closer Look* activity sheet (see *Student Mission 3*).
3. As a class, work together to create a *Take a Closer Look* nutrition label display using the food packaging brought to class. Cut out six large magnifying glasses using construction paper and place them on a wall in the classroom or cafeteria. Then label the magnifying glasses:

- ★ One for each of the four food groups
- ★ One for combination foods (with more than one food group)
- ★ One for less healthy food choices (see *Teacher Notes* for a list)

Students can then classify the food labels and glue them in the appropriate magnifying glass. Since many food packages contain ingredients from a combination of food groups these may be placed in the food group that best represents the *major* ingredient, or placed in the combination foods section.

Student Mission 3: Take a Closer Look

Have students complete the *Take a Closer Look* activity sheet to record the nutrition information they find on the labels of packaged food products. Note that the Nutrition Facts can be used to compare and choose between similar foods. Emphasize that each food group supplies a set of key nutrients, and all four food groups are important for health. Remind students that *Canada's Food Guide* recommends limiting less healthy food choices that are higher in calories, fat, sugar and salt (sodium).

Home Connection:

Examining a variety of food packages they find at home will provide students with a hands-on opportunity to identify the information on food labels.

At Home: Have students collect several empty food packages with the assistance of a family member. They should examine the packages together and discuss the kind of information they find on the label in preparation for the class discussion. Reinforce that these must be cleaned thoroughly before bringing them to class.

After completing the class discussion and activities in this unit, students can share what they learned about the information on food labels with their family. They can use this information to assist with making food choices.

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