

# *Nutrition & You*

## **Internet Lesson Plan**

**Grade level: K-3**

### **Teacher Activities**

#### **Goal:**

To use Internet resources to explore topics related to nutrition and the food groups.

#### **Objectives:**

At the end of this unit, the participant will be able to:

- Describe how people get energy from the food they eat.
- Name the six food groups of the food pyramid.
- Name three foods from the following: bread, cereal, rice and pasta group; milk and dairy group; fruit and vegetable group; meat and protein group; fats, oils and sugar group.
- Create his/her own food pyramid.
- Categorize foods into the food groups where they belong.
- List benefits and facts about fruits and vegetables.
- Compose and ask a question about milk to the "Milk Mystic."
- List facts about milk and other dairy products.
- Name different types of beans and seeds.
- Find out how much fat his/her favorite fast food meal has.
- Evaluate whether it is healthy or not.
- Predict which foods contain fat and conduct an experiment to see if he/she was correct.
- List a myth about candy.

#### **Duration:**

Two to three weeks, ½ to 1 hour online each day.

## **Instructional Strategy:**

Students should work in pairs or small groups and use the Internet stations to locate information pertinent to the topics. They can also print out pages necessary to complete off-line activities. These activities provide an opportunity for older students with Internet experience to serve as mentors or tutors for the younger student groups, giving assistance with advanced vocabulary on Internet sites. Students can keep research information on nutrition in folders and should be encouraged to do additional reading and research both on-line and off-line.

These activities are designed to be interdisciplinary in order for students to discover connections between all subject areas.

## **Prerequisite:**

An introduction to the Internet, specifically the World Wide Web, on obtaining information using specific addresses is needed as well as how to use a Web browser. Students should also be familiar with the concept of "hypertext" so that they can do research at several levels. If students do not have an extended period of time to complete their research, bookmarks can and should be used.

## **Other Projects:**

Projects that can be coordinated with this Internet activity are:

### *Activity #1: Fun with food: General nutrition*

- Make a mobile of the various food groups using pictures from magazines.
- Read Gregory the Terrible Eater by Mitchell Sharmat.
- Cut and paste food group pictures. Choose something from each food group and arrange it on a place mat to show a balanced meal.
- Study the diet of different countries.
- Visit a grocery store and hunt for items in various food groups.
- Check out school lunches from across the country by going to the Web page "DJ's Spot: Menus" at <http://www.schoolmenu.com/menus.htm>. Find out your school's lunch menu by selecting your state and school district. How does it compare to other schools' lunches?
- List the top ten reasons for eating breakfast. To get some help, go to "DJ's Spot: Health & Nutrition" at <http://www.schoolmenu.com/health.htm>.
- See how many healthy snacks you could buy if you had \$5.00 by going to the "Kids Food Cyber Page: Choices, Choices" at <http://www.kidsfood.org/choices/choices.html>. What did you buy?
- Teacher: Make a list of the class's favorite (yummy) and the least favorite (yucky) foods.
- Teacher: Make a vocabulary word wall using nutrition terms.

- Teacher: Pass out supermarket circulars from the newspaper. Have students find items from the different food groups. Rank various foods from least to most expensive.
- Teacher: Have nutrition experts visit your classroom.

### *Activity #2: Great grains: Bread, cereal, rice and pasta*

- Put this bread story in order.
  - ✓ Trucks take the wrapped bread to stores.
  - ✓ Flour is put into bags.
  - ✓ Grain is ground into flour.
  - ✓ Dough is baked in huge ovens.
  - ✓ Trucks take flour to the bakery.
  - ✓ A machine slices and packages wrapped bread.
  - ✓ Honey, eggs, butter and milk are added to flour.
- Create a picture using several kinds of grains, pasta and rice.
- Think of a new kind of healthy cereal, then design a box for the cereal. Use a real cereal box and cover it with paper. Make sure your design makes people want to buy it.
- Paint different kinds of pasta or soak them in water and food coloring. Let them dry. String the pasta on yarn to make a necklace or create a mosaic with the colored pasta.
- Read Bread, Bread, Bread by Ann Morris.
- Read Pancakes, Pancakes by Eric Carle.
- Read The Biggest Sandwich Ever by Rita Golden Gelwan.
- Using several kinds of bread, make a big sandwich with students. Discuss the different food groups in the sandwich.
- Sing "Hot Cross Buns." Discuss how items, such as hot cross buns, used to be sold long ago by people calling out or singing about their merchandise.
- Teacher: Arrange for a class visit to a bakery.
- Teacher: Provide samples of bread from around the world (flat, pita, Italian, French, challah, etc.). Ask students to help you locate on the map where each bread originated. Graph students' favorite breads.

### *Activity #3: Fruits and veggies galore: Fruits and vegetables*

- Read Growing Vegetable Soup by Louis Ehlert.
- Create an "A to Z" fruit and vegetable big book with illustrations and descriptions.
- Read The Carrot Seed by Ruth Krauss.
- Count the seeds found in various fruits and vegetables such as pumpkin, bean, tomato, apple, avocado and pepper. Compare and contrast each.
- Read The Popcorn Book by Tommie dePaola.
- Pop and enjoy some popcorn.
- Create a popcorn kernel guessing jar.

- Create "Ants on a Log." Teacher: Give each student a stalk of celery. Have each student spread peanut butter on the celery and top with raisins.
- Read On Market Street by Arnold Label.
- Create a fruit and vegetable market in the classroom.
- Read "Jack and the Beanstalk." Create a new version with Jack and a different magical fruit or vegetable.
- Make potato prints. Cut a potato in half. Draw a design on the cut side and cut away the part of the potato that is not the design. Dip the potato stamp in tempera paint and stamp the design on a sheet of paper.
- Compare different types of apples: Fuji, Rome, Gala, Granny Smith, Golden Delicious, etc. List the differences on a chart.
- Discover how healthy your sandwich actually is at "IronKids Bread" at [http://www.ironkids.com/Pages/FS/FS\\_main.html](http://www.ironkids.com/Pages/FS/FS_main.html). Build a sandwich by selecting the ingredients you want. You'll see how many calories, fat grams, protein and carbohydrates are in your sandwich and learn just how healthy your favorite sandwich really is. Teacher: Schockware for Authorware needs to be downloaded to do the activity.
- Become a nutrition detective at "Nutrition Cafe: Nutrition Sleuth" at <http://exhibits.pacsci.org/nutrition/sleuth/sleuth.html>. Solve "The Case of the Missing Nutrient" by guessing answers to the clues given. Every correct answer reveals a letter in the name of the missing nutrient. A wrong answer gets you another clue.
- Teacher: Give students apple-shaped cutouts and have them write as many words that they can think of (on the cutout) to describe their favorite kind of apple.
- Teacher: List the words red, green, orange, brown, yellow and purple on a chart. Have the students name and list vegetables under each color.
- Teacher: Draw a large soup pot on butcher block paper and encourage students to draw vegetables to cut out and place in the pot.
- Teacher: Plan a field trip to a local supermarket, cannery or farmer's market.

#### *Activity #4: Moovalous Milk: Milk and dairy products*

- Read The Milk Makers by Gail Gibbons.
- Read Milk by Donald Carrick.
- Create a "Moo-Moo" float by combining these ingredients: 1 package of presweetened fruit-flavored drink mix, 2 1/3 cups of nonfat milk and 2 quarts of cold water.
- Discuss the different kinds of dairy foods available in the supermarket. Have a dairy product party and sample cream, skim milk, sour cream, butter, cheese, yogurt, whole milk, cottage cheese and ice cream.
- Make homemade ice cream or yogurt sundaes.
- Measure milk by cups, pints, quarts and gallons.
- Read The Scoop on Ice Cream by Vicki Cobb.
- Teacher: Plan a class trip to a dairy farm.

- Teacher: Create a farm mural, drawing a simple barn and some rolling green hills. Have students add the farm animals with collages, pictures from magazines or student drawings.
- Teacher: Help students create cow jokes and riddles. For example: "What do you call a place where cows eat popcorn?" "A moo-vie theater!" Collect the class jokes and record on a chart.
- Teacher: Read aloud "Little Miss Muffet." Describe what curds and whey are. (Curds are the solids, whey is the liquid in milk.)

### *Activity #5: Powerful proteins: Meat and proteins*

- Read The Amazing Egg Book by Margaret Griffin and Deborah Seed.
- Read Cloudy with a Chance of Meatballs by Judi Barrett. Write a story about your favorite protein to fall from the sky.
- Teacher: Discuss the sources for different types of meats. For example, ham comes from pigs. Talk about the healthiest kinds of meats to eat.
- Teacher: Discuss the importance of eating a healthy breakfast. Make breakfast pizzas (English muffin, pizza sauce, egg and cheese) or breakfast burritos (flour tortilla, egg, potato and cheese). Invite another class to your breakfast for an "egg-ceptional" meal using egg-shaped invitations and place mats.

### *Activity #6: Just a little bit: Fats, oils and sugar*

- Be a sugar detective. Look at the ingredients in various foods. Find places where sugar is disguised and list them such as canned fruit, gravy and bacon.
- Read Jake Bakes a Cake by B.G. Hennessy.
- Read If You Give a Mouse a Cookie and If You Give a Moose a Muffin by Laura Joffe Numeroff.
- Teacher: Discuss the importance of brushing and flossing your teeth, especially after eating sweets.
- Teacher: Read Bread and Jam for Frances by Russell Hoban. Make jam as a class. Let each child take home a jar as a gift.

### **Software Connections:**

- Writing and More: Observing People, Places, and Things  
Students can study and write about dietitians, grocery stores, farms and various foods.
- Writing and More: Telling About a Character's Actions  
Students can choose to write about how the human body uses food or how someone prepares food.
- Writing and More: Reporting an Event  
Students can act as a reporter finding out what happens to food after it has been eaten.
- Writing and More: Describing an Event  
Students can describe how food is broken down and used by the body.

- **Writing and More: Evaluating Choices**  
Students can write about making choices regarding nutrition.
- **Stories and More: If You Give a Mouse a Cookie**  
When a hungry mouse asks for a cookie, he ends up asking for a whole lot more.
- **Stories and More: I Need a Lunch Box**  
A little boy wishes he had a lunch box like his sister Doris, who is starting first grade.
- **Stories and More: The Little Red Hen**  
The duck, the cat, and the pig refuse to help the Little Red Hen make bread. When the bread is done, the Little Red Hen does not want to share it.
- **Stories and More: The Carrot Seed**  
In spite of his family's doubts, a boy plants and cares for a carrot seed that grows into a giant carrot.

### **Materials Needed by Teacher:**

#### Internet activities

- paper
- pencils, crayons and markers
- chart and butcher paper
- construction paper
- dropper and iodine
- various foods such as: lima beans, cheese, pasta, green beans, strawberries, potatoes, almonds, chocolate, ingredients for pancakes, pear half, cottage cheese, lettuce, selection of fruits, dried beans, graham crackers, rice, cheese, celery, apples, nuts, avocados, potato chips, black beans
- empty baby food jar, cream and salt
- sunflower seeds and quart jars
- food processor, peanuts, salt and canola oil
- hard boiled eggs and food coloring
- brown paper squares
- sugar and clear plastic baggies

#### Other activities

- paper
- pencils, crayons and markers
- chart and butcher paper
- scissors
- glue

- various foods such as: grains, pasta, rice, bread, sandwich ingredients, popcorn, celery, peanut butter, raisins, different types of apples, cottage cheese, milk, presweetened fruit-flavored drink, dairy products, eggs, tortillas, cheese, English muffins, pizza sauce, flour tortillas, potatoes
- paper plates
- old magazines and newspapers
- empty cereal boxes
- pasta and yarn
- food coloring
- fruits and vegetables with seeds
- world map
- potatoes
- tempera paint
- ingredients and jars for making jam

# Nutrition & You

## Student Activities

### Activity #1: Fun with food: General nutrition

What does the word diet mean? A diet is the food a person eats. A balanced diet has all the nutrients your body needs. Eating a variety of healthy foods each day helps you to have a balanced diet. People need food from each of the six groups on the Food Pyramid:

1. bread, cereal, rice, and pasta
  2. fruits
  3. vegetables
  4. milk and dairy products
  5. meats and proteins
  6. fats, oils and sugar
- Find out what your body does with all the food you eat at "Food Zone: Nutrition, Energy" at <http://kauai.cudenver.edu:3010/0/nutrition.dir/energy.html>.  
How do we get energy from the food we eat?
  - View the food guide pyramid at "DJ's Spot: Health & Nutrition" at <http://www.schoolmenu.com/health.htm>.
    - ✓ Name the different food groups.
    - ✓ Take a tour through the different groups.
    - ✓ Why do you think that it is represented by a triangle? Why not a square?
    - ✓ Why are the food groups placed where they are?
    - ✓ Draw your own food pyramid.
  - Answer all your nutrition questions at "Kids Food Cyber Club" at [http://www.kidsfood.org/kf\\_cyber.html](http://www.kidsfood.org/kf_cyber.html). Select the category "Food keeps us well" and answer the questions in it.
  - Read the information on the food pyramid by selecting "USDA Food Guide Pyramid." Did you find anything new? Add it to your food pyramid.

- Bonus: If you have time, try playing some of the games and activities which can be found on "DJ's Spot: Games" at <http://www.schoolmenu.com/games.htm>.

## **Activity #2: Great grains: Bread, cereal, rice and pasta group**

Did you eat a bowl of cereal for breakfast? What about a sandwich for lunch? Hopefully you have, because this food group is on the bottom of the food pyramid, so it requires the most servings per day. You need four or more servings from this group every day.

Foods in this group include bread, cereal, rice, pasta, muffins and bagels. They come from grains like wheat, rice, corn and oats. Grains are a major source of complex carbohydrates (also called starches). Carbohydrates are the body's main source of energy. They are loaded with vitamins and minerals. Grains also are an excellent source of fiber.

- It is easy to test if a food is a complex carbohydrate. Using a dropper, put one drop of iodine on each of the following foods. If starches are present, the iodine will turn blue-black.
  - ✓ cooked lima bean
  - ✓ piece of cheese
  - ✓ cooked pasta
  - ✓ cooked green bean
  - ✓ sliced strawberry
  - ✓ cooked and sliced potato
  - ✓ sliced almond
  - ✓ piece of chocolate
- Go to "Tossed Salad Productions: Virtual Playground" at <http://www.tossed-salad.com/bread.html> to read what's great about bread.
- Write the word "bread" in another language.
- Make an accordion book in the shape of a slice of bread. Write a bread story.
- Did you know that pancakes are also in this food group? Read about them at "Eat Right America: Flip for hotcakes" at <http://www.eatright.org/erm021198.html>.
- What can you add to them to cover other food groups, besides grains?
- Go to "Bulgur Pancakes" at

[http://www.tcsglobal.com/sunnyland/recipes/separated/brft\\_bulgurpancake.htm](http://www.tcsglobal.com/sunnyland/recipes/separated/brft_bulgurpancake.htm).

- Find the ingredients that would fall into this food group.
- Make the recipe with an adult helping you.

### **Activity #3: Fruits and veggies galore: Fruits and vegetables**

Fruits and vegetables are very powerful. They give our bodies proteins, carbohydrates, vitamins and minerals. Your body needs three to five servings of vegetables each day and two to four servings of fruit each day. Fruits and vegetables are especially good for your eyes, skin and gums.

Fruits are a little different than vegetables. A fruit is the part of a plant that contains the seed. The seeds of a plant grow into a new plant. The fruit part of a plant is like a container for the seeds.

- Check out the delicious and nutritious stories at "Pear Bear Healthy Kids" at <http://www2.usapears.com/pears/pbbc.htm>.
- Read "Pears, Peas and a Very Small Dragon."
- Make a pear boat salad. Take a pear half, fill it with cottage cheese, and place it on a lettuce leaf. List what food groups make up the pear boat salad.
- Meet Healthy Herb, read what he has to say about food, and tell him what you think at "Tossed Salad Productions: Talk About Food" at <http://www.tossed-salad.com/talk.html>. Click on the apple, banana, peas and corn to find out how they are pronounced and written in other languages.
- List some other fruits and vegetables and sample them.
- Find out all there is to know about healthy fruits and vegetables at "Dole's 5 a Day: Fruit and Vegetable Nutrition Center" at [http://www.dole5aday.com/nut\\_center/NUTINFO.html](http://www.dole5aday.com/nut_center/NUTINFO.html).
  - ✓ Find and list cool facts about five different fruits and vegetables.
  - ✓ Record the health benefits of fruits and vegetables.
  - ✓ List the fruits and vegetables which are high in vitamin C, vitamin A and fiber.
- Bonus: View pictures of farms and the produce they grow at "Kid's Farm: What Grows" at <http://www.kidsfarm.com/crops.htm>.
- Click on and view pictures of apples, cherries, apricots, asparagus, pears, peaches and a farmer's market.
- List four fruits and vegetables that you can buy at the farmer's market.
- Describe how fruits and vegetables get from the farm to the store.
- Cut out pictures of fruits and vegetables. Use them to create your own farm collage.

### **Activity #4: Moovalous milk: Milk and dairy products**

The dairy group is important to a balanced diet. It provides calcium, a mineral that the body must have to build strong bones and teeth. That's why calcium is important for children who are still growing. You should have four servings of dairy foods each day. These foods include milk, yogurt, cheese and ice cream.

- Learn all about milk and how it helps our bodies at "Milk" at <http://www.whymilk.com/lo/main.html>. Click on the "Milk Mystic" and ask a milk question.
- Record your favorite milk recipes and make a milkshake in class.
- Read It Looked Like Spilt Milk by Charles Green Shaw. Create your own spilled milk story with torn white paper shapes on blue paper background.
- Go to "Manitoba Milk Producers: Dairy Fast Facts" at <http://www.milk.mb.ca/Nutritin/fastfact.htm>. List three facts about dairy products.
- Make butter using a spoonful of cream and a dash of salt. Put in an empty baby food jar, screw the lid on, and shake until the liquid becomes solid.
- Bonus: Complete the puzzle found at the "Manitoba Milk Producers: Dairy Puzzle" Web site at <http://www.milk.mb.ca/Nutritin/kids/dpuzzle.htm>.

### **Activity #5: Powerful proteins: Meat and protein group**

Beef. Ham. Chicken. Fish. Eggs. Even sunflower seeds. What do all these foods have in common? They are part of the meat and protein group. You need two to three servings from this food group every day.

Foods from the meat and protein group help you build muscles and grow strong. They come mostly from animals and provide protein, calcium, iron and zinc.

Did you know, though, that many foods in this group come from vegetables? Beans, nuts, seeds and peanut butter are super sources of protein.

- Read about beans at "Whole Foods: Beans" at <http://www.wholefoods.com/wfm/healthinfo/bulkbeans.html>.
  - ✓ Name some different types of beans.
  - ✓ Have you tried any of these before? What did they taste like?
- Create a collage using many different kinds of dried beans.
- Find out about nuts and seeds at "Whole Foods: Nuts and Seeds" at <http://www.wholefoods.com/wfm/healthinfo/bulknutsandseeds.html>.
- Name different type of seeds.
- Can you eat all seeds? What about an acorn? Is it a seed? List some seeds that you cannot eat.
- Grow your own sunflower seed sprouts. Add ½ cup of seeds to a quart jar with some water. After they grow, eat them raw or in a stir fry.
- Peanut butter is packed with protein as well as carbohydrates. Learn about this nutritious food at "Eat Right America: For the Love of Peanut Butter" at <http://www.eatright.org/erm110597.html> and "Eat Right America: Peanut Butter Lovers' Month" at <http://www.eatright.org/erm111296.html>.
- List foods that you have eaten that were made of peanut butter.
- Make peanut butter with unsalted peanuts, canola oil and a pinch of salt. With an adult, mix in a food processor. Now eat it on some healthy bread!

Eggs are another terrific part of the meat and protein group. They are rich in protein and contain many vitamins and minerals. They are easy to prepare, nutritious and cheap.

- To learn more about eggs, go to "American Egg Board: Eggs and Good Health" at <http://www.aeb.org/food/eggs-health.html>.
- Read Green Eggs and Ham by Dr. Seuss. Make eggs and add some green food coloring. Do green eggs taste different than regular eggs?
- Now that you have learned about many different foods in this group, make a chart of protein foods titled "Animal or Vegetable?" Create two columns and list foods from animal sources in one column and foods from plant sources in the other.

### **Activity #6: Just a little bit: Fats, oils and sugar**

Fats, oils and sugar are at the top of the food pyramid. So what does that mean? You should eat sweets only as a special treat, not all the time. You should only use fats (like butter) and oils (like salad dressing) sparingly. These are items that your body only needs a little bit of, so you need to be careful not to eat too much of them.

- One place you can get a lot of fat without knowing it is at a fast food restaurant. Go to "Food Finder" at <http://www.olen.com/food/>. Choose your favorite restaurant and click on "Fire up the deep fryer" to find out how many grams of fat are in your food. A child around your age should have about 50 grams of fat per day.
- How does your food rate for how much fat it has? Too much? If so, are there other options on the menu that would be lower in fat?
- Do a test to see what foods contain fat. First, predict what foods contain fat. Then, take several brown paper squares. Rub them on various foods and let the paper dry. If a food has fat in it, light will show through its paper square. Some foods you might want to try are:
  - ✓ graham crackers
  - ✓ uncooked rice
  - ✓ chocolate
  - ✓ cheese
  - ✓ celery
  - ✓ apples
  - ✓ nuts
  - ✓ avocados
  - ✓ potato chips
  - ✓ cooked black beans
- Did you know that the average person eats  $\frac{3}{4}$  cup of sugar every day? That's a lot of sugar, considering there are 365 days a year. Measure  $\frac{3}{4}$  cup of sugar and pour it into a clear baggie to see how much sugar that is.

- Brainstorm all the places you get sugar. (Hint: Sugar hides in many places, not just desserts. How about soft drinks? Flavored gelatin? Cereal? There are many more...think of them!)
- Almost everyone loves a piece of candy now and then, even though a lot of candy is packed with sugar and fat. Every once in a while it is okay to give yourself a tasty treat. To learn more about the myths and truths of candy, go to "KidsCandy: Myths and Truths about Candy" at [http://www.kidscandy.org/k\\_myth.html](http://www.kidscandy.org/k_myth.html). List one myth that you thought was true.
- Now go to "KidsCandy: Candy History" at [http://www.kidscandy.org/k\\_history.html](http://www.kidscandy.org/k_history.html). Choose one of the four topics to read. Share your new information with a friend.
- Bonus activity: Go to "KidsHealth.org: All that Fat" at [http://kidshealth.org/kid/food/protein\\_carb\\_fat.html#fat](http://kidshealth.org/kid/food/protein_carb_fat.html#fat). Find out the answers to these interesting fat questions:
  - ✓ What is the difference between saturated and unsaturated fatty acids?
  - ✓ Why do we really need fat?
  - ✓ What foods give us fat?