

Investigating Your Health: Gratifying Grains

Name: _____

Objective: Investigate grains by comparing nutritional differences between whole and processed grains, identify if a bread is a whole grain by examining the ingredient list, and research other food sources that contain whole grains.

A **whole grain** contains all of the parts and nutrients of the entire grain seed. This includes the germ, bran, and endosperm. The **germ** is the embryo of the grain. The **bran** is the tough, protective outer layer of the kernel. The **endosperm** is the largest inner portion of the kernel, and provides the germ's food supply.

Refined grains have been milled, which removes the bran and the germ. Milling also removes the fiber, iron, and many B vitamins from the grain. Most refined grains are enriched, which means that certain B vitamins and iron are added back after processing. Unfortunately, fiber is not usually added back to enriched grains. Eating whole grains instead of refined grains can reduce your risk of stroke, type 2 diabetes, heart disease, and will help with weight management. You should be eating 6 ounces of grains every day, and half of those (3 ounces) should be whole grains.

There are many different ways to identify whole grain foods. Most foods have a stamp to identify them as whole grains. Another way to identify whole grains is to look at the ingredients. The first ingredient should contain the word "whole," for example "whole wheat flour." If there are two



grain ingredients and the second one has the word "whole," the food item is not considered 100% whole grain. The food packaging may also have key words to identify it as a whole grain. Whole grain, whole wheat, stoneground whole, brown rice, oats, oatmeal, and wheat berries are key words to look for to identify food as a whole grain.

One easy way to increase the amount of whole grains you eat is to replace half of the refined grains with whole grains. Popcorn is a whole grain, and can be a healthy snack if there isn't added salt or butter. Ask your parents to buy whole wheat pasta; at some stores it costs the same as regular pasta. Adding rolled oats to your yogurt is a very easy way to increase the amount of whole grains in your diet. There are many other ways you can add whole grain to your diet. Use the *Try This at Home* recipe to make a healthy snack with whole grains!



Comparing Bread

1. Go to the grocery store and look at the Nutrition Facts label on whole grain bread and white (refined) bread. Make sure you choose bread that has the same serving size. Try to find different breads from the same brand. If you are unable to go to the grocery store, use the handout provided by your teacher or access the nutrient database on USDA's website: <http://ndb.nal.usda.gov/ndb/search/list>. Complete the table below.

	Whole Grain Bread	White Bread
Calories		
Total Fat		
Sodium		
Fiber		
Sugar		
Protein		
Folic Acid		
Iron		
Thiamin		
Niacin		
Riboflavin		

2. What are the nutritional differences between the whole grain bread and white bread?

3. Look at a bread label found at home or use a label provided by your teacher. Explain whether the bread is a whole grain or not.

Bread Name: _____

4. Identify 3 more food sources of whole grains other than loaf bread.

1.

2.

3.

5. List 2 ways you can include more whole grains in your diet.

1.

2.

6. Research 3 reasons why it is important to eat whole grains. Use the Internet and or the “Gratifying Grains” reading on page 197 to help with your search. Make sure to use reliable sources of information, for example the United States Department of Agriculture.