

Supplemental Activity: Fiber and Whole Grains

Supplies Needed:

- 4.2_SH_Nutrition-Facts-Handout
- 4.2_SW_Comparing-Whole-Grain-Foods-and-Enriched-Foods

Length of Time to Complete:

- 5 minutes to introduce activity
- 30 minutes to answer questions

Audience (grades): 4th

Common Core Standards Taught:

- English Language Arts: Speaking and Listening: 4.1
 - Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others.
- Math: Operations and Algebraic Thinking: 4.3
 - Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Lesson:

This month we talked about identifying whole grains. Can anyone tell me how to identify a whole grain?

(Clue #1- read the ingredient list. Look for words such as 100% whole wheat, or grains such as: barley, brown rice, bulgur, corn, millet, oatmeal, quinoa, wheat berries, and spelt.)

(Clue #2- look out for the words enriched or refined. Remember, an enriched food is one where the germ and bran were removed, and then vitamins were added back to the food product.)

Can anyone tell me the main difference between whole grains and enriched grains?

Whole grains contain bran, germ and endosperm. Enriched grains are processed to remove the bran and germ, leaving only the endosperm. Since the endosperm, bran and germ are missing, so are many of the vitamins and nutrients like fiber and vitamin B. We need these nutrients to stay healthy. Therefore, some of the vitamins and minerals are added back in a process that is called enrichment.

Today we are going to compare whole grains and enriched grains in order to see the difference in fiber in the content per serving. Fiber is measured in grams. One gram of fiber equals the weight of approximately one peanut.

(Pass out Nutrition Facts Handout and the Comparing Whole Grain Foods and Enriched Foods Worksheet.)

Let's look at the nutrition labels from some common grains.

How many grams of fiber are in the whole grain bread?
(3 grams of fiber)

What about enriched bread?
(1 gram of fiber)

**Comparing Whole Grain Foods and Enriched Foods
Answer key:**

1. For breakfast one week Dan ate one serving of cereal on four of the days and two slices of toast on three of the days. How many grams of fiber did Dan eat if he only ate enriched grains? **10 grams**
2. For breakfast one week Dan ate one serving of cereal on four of the days and two slices of toast on three of the days. How many grams of fiber did Dan eat if he only ate whole grains? **38 grams**
3. For lunch one week Sue had a sandwich each day, and three days she also had a half serving of crackers. How many grams of fiber did Sue eat if she only ate enriched grains? **14 grams**
4. For lunch one week Sue had a sandwich each day, and three days she also had a half serving of crackers. How many grams of fiber did Sue eat if she only ate whole grains? **46.5 grams**
5. How many grams of fiber did Luis eat during dinners in one week if he ate one serving of white rice every night? **14 grams**
6. How many grams of fiber did Luis eat during dinners in one week if he ate one serving of brown rice every night? **28 grams**