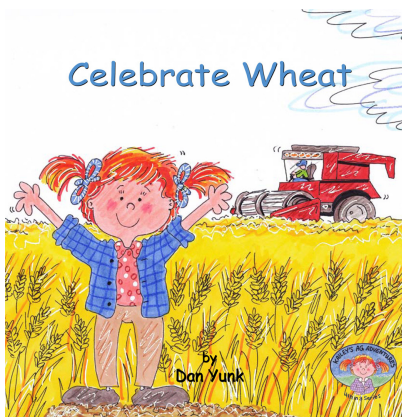


The Battle of the Breads

A Lesson on the Nutritional Value of Wheat and White Bread



A lesson based on the book, *Celebrate Wheat*, by Dan Yunk.

This book was financed by the Kansas Farm Bureau Foundation for Agriculture on behalf of Kansas Farm Bureau, The Voice of Agriculture. It was written to educate young people, parents and teachers about where our food comes from.

America's food supply is safe, affordable and abundant but also vastly misunderstood by the consuming public. It is the intention of Kansas Farm Bureau to improve the public's knowledge about the importance farming and ranching plays in our quality of life.

BACKGROUND INFORMATION:

After reading *Celebrate Wheat*, we learned with Kailey that pizza crust is made from wheat. Did you know that bread is made from wheat, too? Let's use descriptive words, or adjectives, to describe bread.

Write student responses on the board. Ideally, one student will describe the color of bread as white and another as brown. This will lead you into the lesson. If students only use one color to describe bread, use pictures or an example of a loaf of white and a loaf of wheat bread to ask them, "Are these both breads? But they are different colors? So, are they both bread?" Student response: YES!

We have discovered that bread can come in different colors. What are the differences in whole wheat and white bread? Let's discover these nutritional differences as we learn how to locate health information by reading ingredient labels.

Before we begin reading the labels on these loaves of bread, let's determine the differences in these two types of bread. To do this, we have to identify the 3 different parts of a wheat kernel.

Pass out handout 1 or project the image on an overhead projector.

A wheat *kernel*, or the seed, has 3 different parts—the *endosperm*, *bran*, and *germ*. These 3 parts can be separated during *milling*, or the process that grinds raw wheat kernels into flour.

White flour milled from the endosperm of the wheat kernel is used to make white bread. Whole wheat flour milled from the entire kernel – the endosperm, bran, and germ – is used to make wheat bread.

LEVEL:

K—Grade 4

SUBJECTS/STANDARDS:

Health Education K—4

Standard 2: The student will demonstrate the ability to access valid health information and health-promoting products and services.

Benchmark 1: The student will locate information on products and services and recognize the validity of the information.

Indicators: The student will access health information and health-promoting products and services from sources and determine their validity.

ACTIVITY DESCRIPTION:

Students will locate the ingredient list on wheat products, classify products as whole wheat, and take a poll on their favorite type of bread to create a bar graph. *Optional*: Upper level students will read the nutrition facts label on wheat products.

We have discovered that both whole wheat and white breads are made from wheat, but are produced by using different parts of the kernel. Let's now find the nutritional differences in these breads by reading their ingredient labels.

Nutrition experts suggest at least half of our daily grains come from whole grain products. (*The total number needed depends on age, gender, and activity level. Refer to MyPyramid.com to determine how many grains you need daily to be healthy.*) Whole wheat bread and whole wheat products are a good source of fiber, vitamins, minerals, and other nutrients. Remember that whole wheat comes from all 3 parts of the wheat kernel.

But beware—the color of bread can be deceiving. Just because a bread is brown in color doesn't necessarily mean it is whole wheat bread. Then, how do you know if a bread is whole wheat? Look at the ingredient label listed on the package. Whole wheat or whole grain flour should be the first ingredient listed if the product is in fact whole wheat or whole grain. Did you know the ingredients are listed in order of quantity? Therefore, if whole grain is listed at the bottom of the ingredient list on a certain product, there isn't a whole lot of whole grain in that product.

The other half of our daily grain serving can come from other grain products. White bread and other products made from white flour are *enriched* with iron and B vitamins since they are made only with the endosperm portion of the kernel. Because of enrichment, white bread has twice the amount of *folic acid* than wheat bread. Folic acid helps mothers give birth to healthy babies.

ACTIVITY:

Bring in wheat products' packaging and have the students locate the ingredient label and compare ingredients in similar products. Intentionally, bring a loaf of brown bread that is not whole wheat bread. Many times generic or store brand wheat brand is not 100% whole wheat bread. Pass out worksheet 1 for students to capture their data. Students should place an X in the correct column according to the product's ingredient list. The teacher will want to specify which product is number 1, number 2, and so on. The worksheet has 10 rows for different wheat products. However, a teacher may decide to use only 2 of those rows or all 10 depending on the level appropriate for their class. *Want helpful hints for this activity? See Teacher's Notes on page 3.*

Let's end this lesson by taking a vote. What is your favorite type of bread? *Have students vote on whole wheat or white bread. Use worksheet 2 to create a bar graph to illustrate the results. This can be done as a class on an overhead projector or individually depending on the level of the class.*

We now know that whole wheat and white breads are both made with wheat, but just different parts of the wheat kernel. We have also learned that experts suggest at least half of our daily grains be whole grain, such as whole wheat. To find out if a product is whole wheat or not, just look at the ingredient label. Whether you like whole wheat or white bread, when breads battle, you win because all breads offer nutritional value!

STUDENT LEARNING OUTCOMES:

Students will classify wheat products as made with whole wheat flour or white flour using a 3-column chart.

ESTIMATED TEACHING TIME:
30 minutes

NEW VOCABULARY:

Kernel
Endosperm
Bran
Germ
Milling
Enriched/Enrichment
Folic acid

MATERIALS NEEDED:

Celebrate Wheat
Copies or Transparencies of
Handout 1 & Worksheet 2
Copies of Worksheet 1
Examples of wheat products

PREPARE AHEAD:

Make copies and/or
transparencies.
Gather wheat products'
packaging.

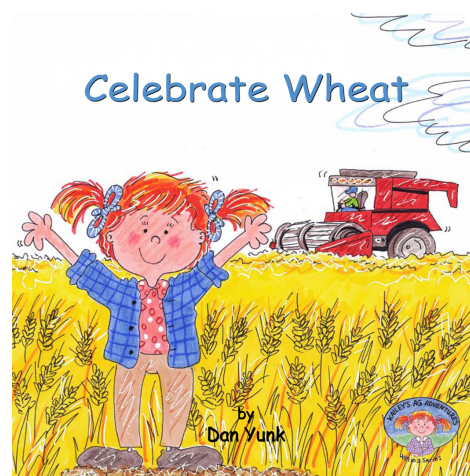
TEACHER'S NOTES:

- For lower level classes, stick to reading the ingredient labels of different types and/or brands of breads.
- For upper level classes, add in other wheat products, such as cereals, bagels, biscuits, etc. in addition to types/brands of breads.
- A teacher may choose to bring in the actual packaging from the wheat products. However, a teacher will need to bring in multiple packaging (i.e. bags from loaves of bread) so students are engaged throughout the lesson and aren't simply waiting for another student to finish with the product. By having more than one example of the product, off-task behavior will be minimized.
- A teacher may choose to have students bring in their own packaging from a loaf of bread (or other wheat product). A teacher should be prepared with additional products in case students forget or are unable to bring in a wheat product's packaging. Be sure to specify to just bring the packaging and leave the actual food at home. Why? The food can be a distraction during the lesson. It is also wasteful, as few parents want to use a loaf of bread that has been smashed by elementary students!
- Food allergy warning: Some people are allergic to wheat and/or the protein found in wheat. Be aware of any allergies before bringing any products into your classroom. If a student does have an allergy, this activity is still possible. Instead of bringing the packaging or products into your classroom, simply cut the ingredient lists out from the different packages, arrange them in a way that they all fit on a piece of computer paper, and make copies.
- Teaching upper level students? Enhance this lesson by teaching about the nutritional differences between wheat and white breads using nutrition facts labels. Which type offers more fiber? More calcium? Compare types of breads and their nutritional value, as well as different brands (store brand versus national brand). Use nutrition facts labels from real loaves of bread. The US Food and Drug Administration has educational materials available for reading nutrition facts labels.

The Battle of the Breads...

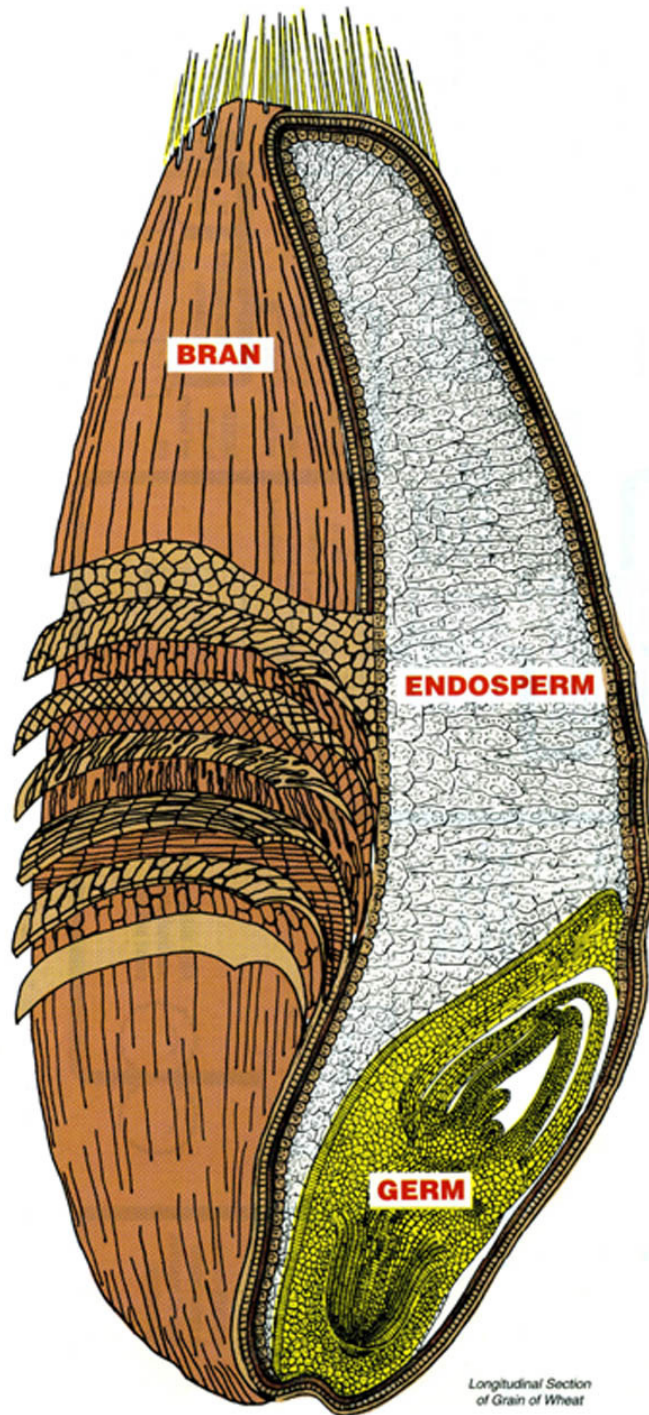
Kids like white bread best, according to 54% of moms polled by Gallup. Moms say though that they would prefer that their kids eat whole wheat. The good news — All breads offer nutritional value!

Source: Wheat Foods Council



The Battle of the Breads

Kernels of wheat are small. This picture is enlarged so it can be seen clearly.
There are 50 kernels in one head of wheat and up to 17,000 kernels in just 1 pound!



Graphic Courtesy of the Wheat Foods Council

The Battle of the Breads

Name _____

Which product is whole wheat? Locate the ingredient list on the packaged wheat products. If the product is made with whole wheat flour, place an X in the whole wheat flour column. If the product is made with white flour, place an X in the white flour column.

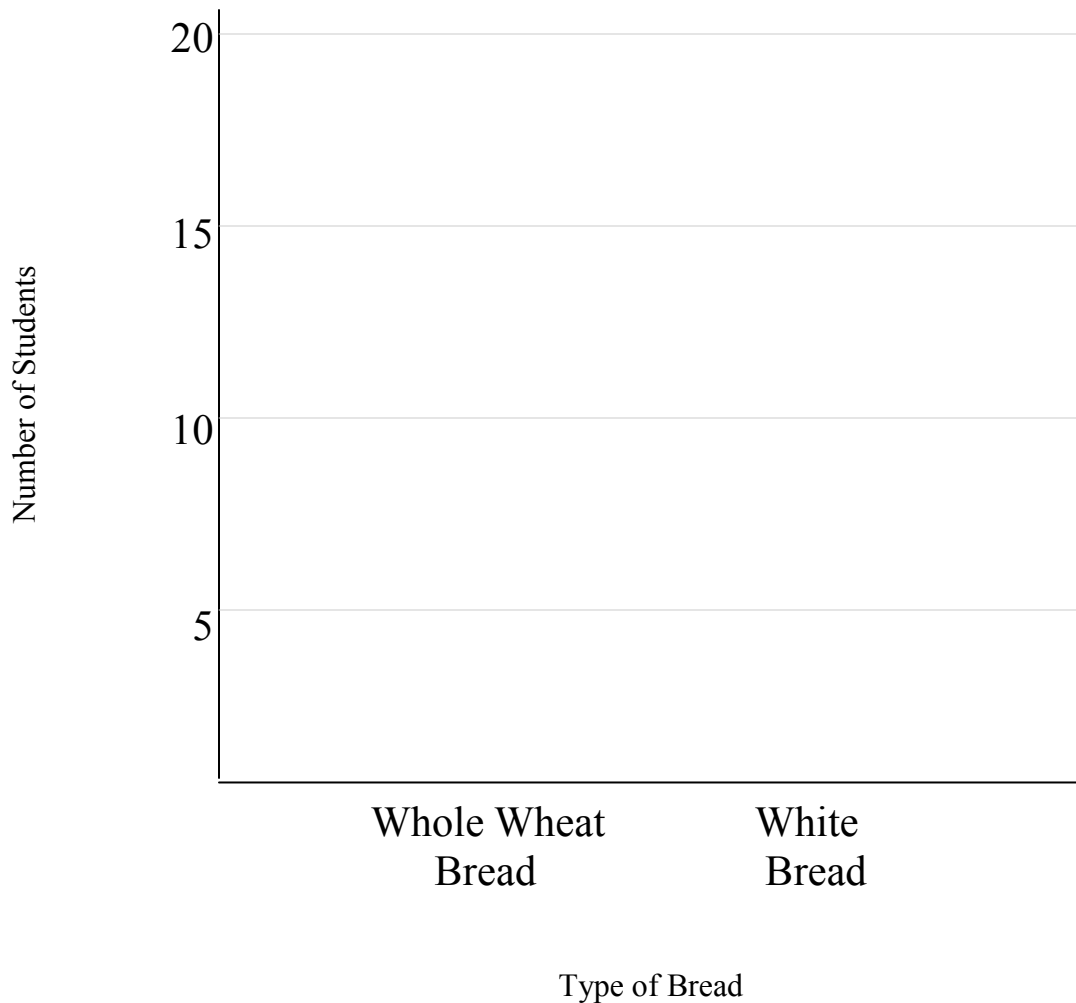
<u>Product Name</u>	<u>Whole Wheat Flour</u>	<u>White Flour</u>
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

The Battle of the Breads

Name _____

Which type of bread is most popular in your class?

Vote on your favorite type of bread and then create a bar graph to display the results.



Who wins when breads battle?

YOU do, because **all** breads offer nutritional value!