

UNIVERSITY OF
MARYLAND
EXTENSION



NUTRITION

Supplemental Workbook



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this workbook. Thank you!**

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Edible Plant Parts

Which parts of the plant did you eat this week?

Bulbs

Garlic

Onion

Tubers

White potato

Roots

Beets

Carrots

Radish

Turnips

Stems

Asparagus

Celery

Flowers

Broccoli

Cauliflower

Leaves

Cabbage

Collards

Kale

Lettuce

Spinach

Fruits

Cucumber

Eggplant

Tomato

Pepper

Seeds

Black-eyed peas

Green beans

Lima beans

Peas

Pinto beans

Sunflower seeds



Edible Parts of the Plant

Match the vegetable picture to its plant part word listed in the box. You will use some words more than once!

Fruit	Leaf	Flower	Root	Stem	Seed
-------	------	--------	------	------	------



Kurt & Casey Collard Greens' Leafy Greens Word Search



Howdy, partner
My name is Kurt, and here, in the red boots, is my dance partner Casey. When we're not out dancing, we love to create word search puzzles. We created this leafy greens word search puzzle just for you & Have fun finding words that describe these delicious vegetables and the nutrients they contain.

All the words in the list below are in the puzzle. You can find them spelled horizontally, vertically, diagonally, forward or backward ...but they will always be in a straight line. Circle each word or phrase.



F	O	O	D	G	K	O	D	S	T	Z	X	S	S	K
I	O	F	O	L	I	C	A	C	I	D	W	N	N	M
B	N	J	C	U	F	L	N	W	S	F	H	E	E	U
E	D	O	Q	A	A	D	D	A	V	C	Q	E	E	S
R	K	I	R	D	L	Y	E	R	A	P	W	R	R	T
G	N	Y	U	I	V	C	L	N	A	B	O	G	G	A
S	N	E	E	R	G	P	I	N	R	U	T	D	Y	R
I	N	R	Q	N	Y	P	O	U	T	C	V	R	F	D
T	O	T	S	Z	S	P	N	R	M	N	I	A	A	G
A	R	U	G	U	L	A	G	E	F	I	T	L	E	R
G	V	N	X	P	D	X	R	W	F	M	A	L	L	E
E	C	U	T	T	E	L	E	N	I	A	M	O	R	E
T	T	S	U	X	Z	L	E	E	X	T	I	C	T	N
E	L	A	K	W	M	G	N	V	K	I	N	A	M	S
R	I	W	F	D	R	D	S	X	B	V	A	Z	E	D

- Spinach
- Romaine Lettuce
- Collard Greens
- Arugula
- Dandelion Greens
- Turnip Greens
- Kale
- Mustard Greens
- Calcium
- Fiber
- Iron
- Vitamin A
- Vitamin C
- Folic Acid
- Raw
- Salad
- Leafy Greens



Source: 2004 Copyright Dole Food Company. Find more 5 A Day Activity Sheets at www.dole5aday.com



Label Parts of the Kernel

All grains start life as whole grains. In their natural state growing in the fields, whole grains are the entire seed of a plant. This seed (which industry calls a “kernel”) is made up of three key edible parts - the bran, the germ, and the endosperm - protected by an inedible husk that protects the kernel from assaults by sunlight, pests, water, and disease.

THE BRAN

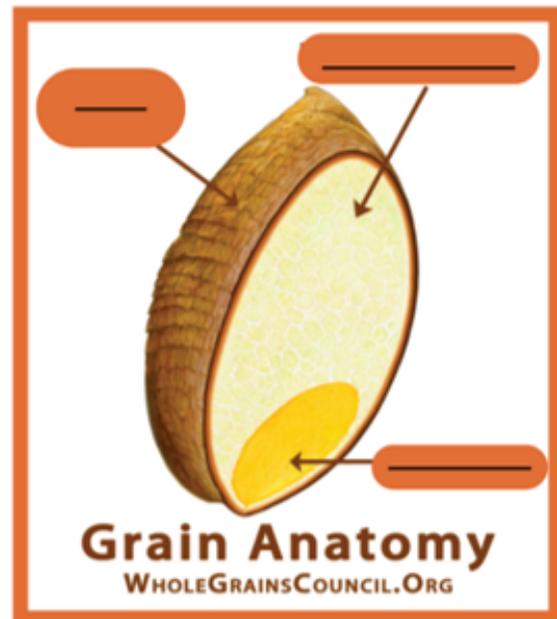
The bran is the multi-layered outer skin of the edible kernel. It contains important antioxidants, B vitamins and fiber.

THE GERM

The germ is the embryo which has the potential to sprout into a new plant. It contains many B vitamins, some protein, minerals, and healthy fats.

THE ENDOSPERM

The endosperm is the germ’s food supply, which provides essential energy to the young plant so it can send roots down for water and nutrients, and send sprouts up for sunlight’s photosynthesizing power. The endosperm is by far the largest portion of the kernel. It contains starchy carbohydrates, proteins and small amounts of vitamins and minerals.



Sources: National Agriculture in the Classroom, U.S. Geological Survey, National Weather Service



Filling Up on Fiber

FILLING UP ON FIBER

What Is Fiber?

Fiber is found in fruits, vegetables, grains, nuts, seeds, dried beans, split peas, and lentils. It is the part of plants that the body cannot digest easily. Fiber includes plant cell walls (cellulose) and other substances, such as pectin and gums. There is no dietary fiber in meat or dairy products.

We need to eat fiber for good health. A high-fiber diet may lower the risks for certain cancers, heart disease, and even obesity. Most Americans' diets contain, on the average, about 10 grams of fiber. Try to choose foods that add up to 20–30 grams of fiber per day. The chart on page 3 will help you figure how much fiber is in foods.

Remember that a diet too high in fiber (more than 35 grams per day) is not recommended. As is true of other nutrients, some fiber is needed—but too much can unbalance your diet.



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Filling Up on Fiber (Continued)

Adding Fiber

The U.S. Food and Drug Administration (FDA) has defined a high-fiber food to equal 5 grams of fiber per serving. A good source of fiber equals 2.5 grams to 4.9 grams of fiber per serving.

There are many ways to add fiber to your diet:

- ◆ Add sliced fresh fruit to cereal, yogurt, or cottage cheese.
- ◆ Use whole grain breads (which contain at least 3 grams of fiber per serving) in place of white bread.
- ◆ Choose whole-grain crackers.
- ◆ Use fresh fruit and vegetables every day. Eat fruit at every meal and snack on fresh or dried fruit, raw vegetables, or low-fat popcorn
- ◆ Use more beans and peas in meals. Try split pea or lentil soup, brown rice and beans, or chili.
- ◆ Choose high-fiber cereals (5 grams of fiber or more per serving) for breakfast in place of refined, sugary cereals.
- ◆ Eat potatoes with the skin.
- ◆ When you cook vegetables, steam or stir fry until they are tender but still crisp.
- ◆ Use sunflower seeds, sesame seeds, or wheat germ for toppings on casseroles, or add them to baked goods like quick breads and cookies.

How Much Fiber Did You Eat Today?

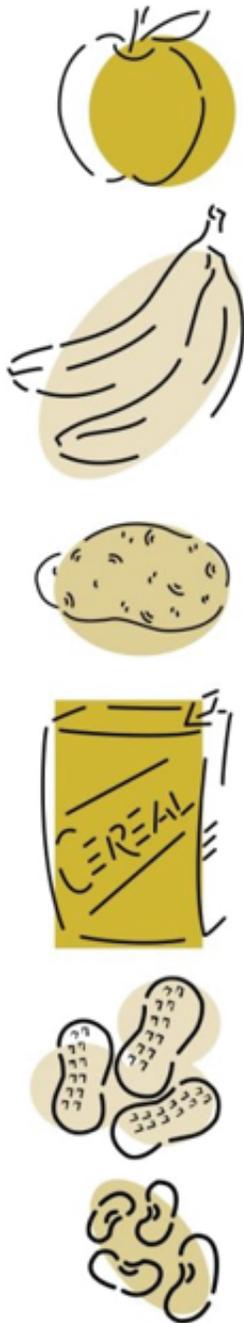
Adults need 20–30 grams of fiber each day for good health. Consult the following chart to check how much fiber you ate today.



Read food labels to find the amount of dietary fiber in each product.



Filling Up on Fiber (Continued)



Food	Amount	Grams of fiber
FRUITS		
Apple	1 medium	3.7
Apple juice	3/4 cup	0
Banana	1 medium	1.8
Cantaloupe	1/4 melon	1.0
Orange	1 medium	3.6
Orange juice	3/4 cup	0.4
Peach	1 medium	1.4
Raisins	1/4 cup	2.0
Strawberries	1/2 cup	2.0
VEGETABLES		
Broccoli, cooked	1/2 cup	3.6
Cabbage, raw	1/2 cup	1.0
Carrot	1 medium	2.3
Corn	1/2 cup	2.0
Green beans	1/2 cup	1.0
Onion, cooked	1 medium	0.8
Peas, green	1/2 cup	3.0
Potato, with skin	1 medium	3.0
Potatoes, French fried	10 strips	1.6
Tomato	1 medium	1.6
Tomato juice	3/4 cup	1.4
BREADS AND CEREALS		
Bran flakes	3/4 cup	4.2
Bread, white	1 slice	0.5
Bread, whole wheat	1 slice	2.0
Corn flakes	1 cup	0.5
Crisp rice cereal	1 cup	0.1
Oatmeal, cooked	1/2 cup	2.3
Popcorn	1 cup	1.2
Rice, white, cooked	1/2 cup	1.0
Spaghetti and macaroni	1/2 cup	1.0
Tortilla, corn	1 medium	1.5
Oat bran muffin	1 medium	13.1
NUTS		
Peanuts	1/4 cup	3.2
Peanut butter	2 Tbsp.	3.4
Walnuts	1/4 cup	2.0
LEGUMES		
Baked beans	1/2 cup	9.8
Kidney beans	1/2 cup	6.5
Lima beans	1/2 cup	6.5
Navy beans	1/2 cup	5.0
Pinto beans	1/2 cup	6.4



Filling Up on Fiber (Continued)

Children should eat fruits and vegetables every day.

How Much Fiber Do Children Need?

Experts in children's nutrition agree it's important to teach children healthful eating habits when they are young. But what about fiber? We haven't heard much about its benefits for children.

We're beginning to understand fiber's importance in children's diets. It has key health benefits in promoting regularity. Fiber not only helps to maintain good health as children grow, it helps them establish eating patterns that may assist in reducing their risk of developing heart disease and some types of cancer later in life.

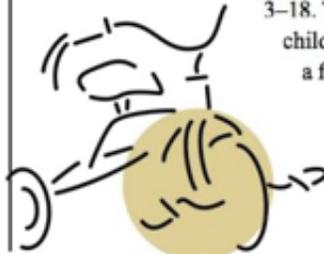
The *Dietary Guidelines for Americans* recommends that after children are two years old, the fat in their diets should be lowered gradually until it reaches the level recommended for adults, around age five. As we lower the fat, we need to provide more foods rich in fiber, vitamins, and minerals.

We do need to be careful how much fiber we give children. High-fiber diets can reduce the amount of calories children get because foods high in fiber tend to be bulky and low in calories. Fiber can also bind minerals so that they are not available for the child to absorb. But most children currently do not get enough fiber.

Dietary fiber should be increased gradually. Caution is especially prudent for groups that may not be getting enough calories or minerals, such as preschool children, adolescents with mineral-deficient diets, children with inadequate nutrition, and some vegetarian children who have nutritionally inadequate diets. The best way to add fiber is by increasing the amounts of fruits, vegetables, legumes, cereals, and other grain products consumed. It's also important for anyone who is eating more fiber to drink extra liquids, including water, juice, or milk.

So how much fiber should children eat? Until recently there were no formal guidelines geared for children's needs and their developmental cycle. Now we have a fiber

recommendation for children ages 3–18. The new formula is the child's age plus 5. For example, a five-year-old child needs about 10 grams of fiber, $5 + 5 = 10$. This formula allows for the greater need for fiber as the child grows.





Filling Up on Fiber (Continued)



Below are some fiber-containing foods in portions consumed by children:

Food	Amount	Grams of fiber
GRAINS		
Raisin bran cereal	1 cup	7
Whole wheat biscuit cereal	1 cup	6
Bran waffle	2 rounds	4
Oatmeal	1 cup	4
Whole wheat bread	1 slice	2
Bran muffin	1 small	2
Fruit-filled cereal bar	1	1
VEGETABLES		
Cooked green peas	1/2 cup	3
Cooked broccoli	1/2 cup	3.5
Cooked carrots	1/2 cup	2
Cooked corn	1/2 cup	2
FRUITS		
Apple, with peel	1 medium	3
Orange	1 medium	3.5
Raisins	1/4 cup	2
Banana	1/2 medium	1



Fiber Recipes

FIBER RECIPES

Banana Bread

- 1/2 cup sugar
- 1/2 cup egg substitute
- 2 cups mashed bananas (about 5)
- 2 cups whole wheat pastry flour
- 1 teaspoon baking powder
- 1/2 teaspoon baking soda
- 1 teaspoon cinnamon

With mixer, beat together sugar, eggs, and bananas. Add dry ingredients; mix well. Pour into loaf pan sprayed with cooking spray. Bake at 350° for 45 minutes. Makes 16 slices.

One serving provides 112 calories, 3 grams protein, 3 grams fiber, and 0 grams fat.

Simple Chicken Pasta Salad

- 4 ounces cooked pasta twists or bows
- 1 6-ounce boneless chicken breast, poached, cooked, and cubed, or 1 cup cubed cooked chicken
- 1 10-ounce frozen package chopped broccoli, thawed and drained, or 1 cup chopped fresh broccoli
- 1/2 cup frozen peas, thawed
- 1 16-ounce can stewed tomatoes
- 1 teaspoon Italian blend herbs
- 1/4 teaspoon white pepper
- 1 tablespoon Parmesan cheese

Combine all ingredients in salad bowl; cover and chill for 20 minutes. Makes 3 servings.

One serving provides 328 calories, 29 grams protein, 8 grams fiber, and 4 grams fat.

One-Dish Meal

- 1/3 pound lean ground beef
 - 1/2 cup canned or fresh tomatoes, diced
 - 1/4 cup rice (uncooked)
 - 1/3 cup water
 - Pepper to taste
 - 1 cup cooked split peas or frozen thawed green peas
- Put ground beef in a pan and cook over medium heat until browned. Drain off fat. Add tomatoes, rice, water, and pepper. Cover and boil gently about 25 minutes or until rice is tender. Add split peas. Heat moderately until hot. Makes 2 servings.

One serving provides 182 calories, 19 grams protein, 3 grams fiber, and 3 grams fat.



Fiber Recipes (Continued)

FIBER RECIPES

Easy Brown Rice and Beans

4 tablespoons brown rice
3/4 cup water
7-ounce can stewed tomatoes
1/3 cup chopped celery (1 stalk)
1/3 cup chopped onions (1/2 medium onion)
1/2 cup chopped green pepper (1/2 medium)
7-ounce can red kidney beans (or 1/2 14-oz can)
Pinch of garlic powder
2 drops hot sauce
Dash of pepper

Cook rice in water until water is absorbed. In skillet cook chopped celery, onion, and green peppers slowly over low heat about 10 minutes. Add drained canned beans, stewed tomatoes, and seasoning. Bring to a boil, and then simmer uncovered about 10 minutes. Add cooked rice and mix. Makes 2–3 servings.

One serving provides 75 calories, 5 grams protein, 4 grams fiber, and 1 grams fat.

Yummy Yams

3 medium yams
1 cup dried prunes (soaked, drained)
2 tablespoons lemon juice
2 teaspoons margarine
2 tablespoons fruit juice (orange, apple, etc.)
Pinch of mace, pinch of ginger
1/2 teaspoon salt

Peel and cut yams into 1/4-inch slices, and steam. Arrange layer of yams on bottom of oiled, small baking dish. Dot with margarine. Top with layer of prunes. Alternate layers until all is used. Blend the rest of the ingredients together and pour over potatoes and prunes. Bake at 350° for about 35 minutes. Makes 3 servings.

One serving provides 447 calories, 7 grams protein, 17 grams fiber, and 3 grams fat.

Apricot Rice

Cook 1/4 cup long-grain rice with 1 1/2 cups water till tender; drain. Drain one 8 3/4-oz can apricot halves, saving 3 tablespoons syrup. Combine syrup, cooked rice, and 2 tablespoons orange juice concentrate. Spoon into 2-cup baking dish; top with apricots and bake at 375° for 20 minutes. Makes 2 servings.

One serving provides 93 calories, 1 grams protein, 2 grams fiber, and 0 grams fat.



Fiber Recipes (Continued)



Bean Burritos

- 1 16-ounce can pinto beans
- 1 tablespoon oil
- 1 package (10) flour tortillas
- 1/2 cup chopped onions
- 1 cup grated American or Longhorn cheese
- Chopped lettuce
- Salsa or taco sauce

Mash drained beans and heat in oil until hot. Simmer and stir over low heat until thick. Heat flour tortillas until warm and soft. Spread about 2 tablespoons of beans on the tortilla. Add cheese, onions, lettuce, and salsa if desired. Fold one side of the tortilla up about one inch, then roll. Makes 5 servings.

One serving provides 491 calories, 20 grams protein, 5 grams fiber, and 17 grams fat.

Prepared by Julie A. Haines, assistant director, Nutrition Links program.

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ANSWER KEY: Edible Parts of the Plant

Match the vegetable picture to its plant part word listed in the box. You will use some words more than once!

Fruit	Leaf	Flower	Root	Stem	Seed
-------	------	--------	------	------	------

			
Stem	Seed	Leaf	Seed
			
Fruit	Fruit	Flower	Root
			
Leaf	Flower	Root	Stem



ANSWER KEY: Leafy Greens Word Search



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- Spinach
- Romaine Lettuce
- Collard Greens
- Arugula
- Dandelion Greens
- Turnip Greens
- Kale
- Mustard Greens
- Calcium
- Fiber
- Iron
- Vitamin A
- Vitamin C
- Folic Acid
- Raw
- Salad
- Leafy Greens



Source: 2004 Copyright Dole Food Company. Find more 5 A Day Activity Sheets at www.dole5aday.com



ANSWER KEY: Label Parts of the Kernel

All grains start life as whole grains. In their natural state growing in the fields, whole grains are the entire seed of a plant. This seed (which industry calls a “kernel”) is made up of three key edible parts - the bran, the germ, and the endosperm - protected by an inedible husk that protects the kernel from assaults by sunlight, pests, water, and disease.

THE BRAN

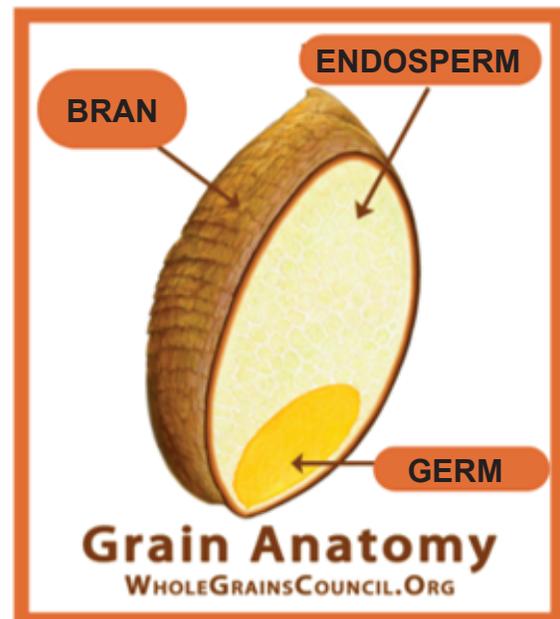
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THE GERM

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THE ENDOSPERM

The endosperm is the germ’s food supply, which provides essential energy to the young plant so it can send roots down for water and nutrients, and send sprouts up for sunlight’s photosynthesizing power. The endosperm is by far the largest portion of the kernel. It contains starchy carbohydrates, proteins and small amounts of vitamins and minerals.



Sources: National Agriculture in the Classroom, U.S. Geological Survey, National Weather Service



Additional Resources

[National Ag in the Classroom](#)

Lesson plans and activities

[United States Department of Agriculture - Nutrition.gov Kids' Corner](#)

List of nutrition-related resources, activities, and information

[Whole Grains Council](#)

Elementary school lesson plans and educational materials