

## What foods are in the grain group?

Any food made from wheat, rice, oats, cornmeal, barley or another cereal grain is a grain product. Bread, pasta, oatmeal, breakfast cereals, tortillas and grits are examples of grain products.



Grains are divided into 2 subgroups, **whole grains** and **refined grains**.

Whole grains contain the entire grain kernel -- the bran, germ, and endosperm. Examples include:

- whole-wheat flour
- bulgur (cracked wheat)
- oatmeal
- whole cornmeal
- brown rice

Refined grains have been milled, a process that removes the bran and germ. This is done to give grains a finer texture and improve their shelf life, but it also removes dietary fiber, iron and many B vitamins. Some examples of refined grain products are:

- white flour
- degermed cornmeal
- white bread
- white rice

Most refined grains are *enriched*. This means certain B vitamins (thiamin, riboflavin, niacin, folic acid) and iron are added back after processing. Fiber is not added back to enriched grains. Check the ingredient list on refined grain products to make sure that the word "enriched" is included in the grain name. Some food products are made from mixtures of whole grains and refined grains. Some commonly eaten grain products are:

### Whole grains:

brown rice  
buckwheat  
bulgur (cracked wheat)  
oatmeal  
popcorn

### Ready-to-eat breakfast cereals:

whole wheat cereal flakes  
muesli

whole grain barley  
whole grain cornmeal  
whole rye  
whole wheat bread  
whole wheat crackers  
whole wheat pasta  
whole wheat sandwich buns and rolls  
whole wheat tortillas  
wild rice

### Less common whole grains:

amaranth  
millet  
quinoa  
sorghum  
triticale

### Refined grains:

cornbread\*  
corn tortillas\*  
couscous\*  
crackers\*  
flour tortillas\*  
grits  
noodles\*

*Pasta\**  
spaghetti  
macaroni

pitas\*  
pretzels

### Ready-to-eat breakfast cereals

corn flakes

white bread  
white sandwich buns and rolls  
white rice.

\*Most of these products are made from refined grains. Some are made from whole grains. Check the ingredient list for the words "whole grain" or "whole wheat" to decide if they are made from a whole grain. Some foods are made from a mixture of whole and refined grains. Some grain products contain significant amounts of bran. Bran provides fiber, which is important for health. However, products with added bran or bran alone (e.g., oat bran) are not necessarily whole grain products.

## Why is it important to eat grains, especially whole grains?

Eating grains, especially whole grains, provides health benefits. People who eat whole grains as part of a healthy diet have a reduced risk of some chronic diseases. Grains provide many nutrients that are vital for the health and maintenance of our bodies.

### Health benefits

- Consuming foods rich in fiber, such as whole grains, as part of a healthy diet, reduces the risk of coronary heart disease.
- Consuming foods rich in fiber, such as whole grains, as part of a healthy diet, may reduce constipation.
- Eating at least 3 ounce equivalents a day of whole grains may help with weight management.
- Eating grains fortified with folate before and during pregnancy helps prevent neural tube defects during fetal development.

### Nutrients

Grains are important sources of many nutrients, including dietary fiber, several B vitamins (thiamin, riboflavin, niacin, and folate), and minerals (iron, magnesium, and selenium).

- Dietary fiber from whole grains, as part of an overall healthy diet, helps reduce blood cholesterol levels and may lower risk of heart disease. Fiber is important for proper bowel function. It helps reduce constipation and diverticulosis. Fiber-containing foods such as whole grains help provide a feeling of fullness with fewer calories. Whole grains are good sources of dietary fiber; most refined (processed) grains contain little fiber.
- B vitamins (thiamin, riboflavin, niacin, and folate) play a key role in metabolism – they help the body release energy from protein, fat, and carbohydrates. B vitamins are also essential for a healthy nervous system. Many refined grains are enriched with these B vitamins.
- Folate (folic acid), another B vitamin, helps the body form red blood cells. Women of childbearing age who may become pregnant and those in the first trimester of pregnancy should consume adequate folate, including folic acid from fortified foods or supplements. This reduces the risk of neural tube defects, spina bifida, and anencephaly during fetal development.
- Iron is used to carry oxygen in the blood. Many teenage girls and women in their childbearing years have iron-deficiency anemia. They should eat foods high in heme-iron (meats) or eat other iron containing foods along with foods rich in vitamin C, which can improve absorption of non-heme iron. Whole and enriched refined grain products are major sources of non-heme iron in American diets.
- Whole grains are sources of magnesium and selenium. Magnesium is a mineral used in building bones and releasing energy from muscles. Selenium protects cells from oxidation. It is also important for a healthy immune system.

## How many grain foods are needed daily?

The amount of grains you need to eat depends on your age, sex, and level of physical activity. Recommended daily amounts are listed in the chart. Most Americans consume enough grains, but few are whole grains. At least ½ of all the grains eaten should be whole grains.

		Daily Recommendation*	Daily Minimum Amount of Whole Grains
<b>Children</b>	2-3 years old	3 ounce equivalents	1½ ounce equivalents
	4-8 years old	4 - 5 ounce equivalents	2 – 2½ ounce equivalents
<b>Girls</b>	9-13 years old	5 ounce equivalents	3 ounce equivalents
	14-18 years old	6 ounce equivalents	3 ounce equivalents
<b>Boys</b>	9-13 years old	6 ounce equivalents	3 ounce equivalents
	14-18 years old	7 ounce equivalents	3½ ounce equivalents
<b>Women</b>	19-30 years old	6 ounce equivalents	3 ounce equivalents
	31-50 years old	6 ounce equivalents	3 ounce equivalents
	51+ years old	5 ounce equivalents	3 ounce equivalents
<b>Men</b>	19-30 years old	8 ounce equivalents	4 ounce equivalents
	31-50 years old	7 ounce equivalents	3½ ounce equivalents
	51+ years old	6 ounce equivalents	3 ounce equivalents

\*These amounts are appropriate for individuals who get less than 30 minutes per day of moderate physical activity, beyond normal daily activities. Those who are more physically active may be able to consume more while staying within calorie needs.

### What counts as an ounce equivalent of grains?

In general, 1 slice of bread, 1 cup of ready-to-eat cereal, or ½ cup of cooked rice, cooked pasta, or cooked cereal can be considered as 1 ounce equivalent from the grains group. The chart lists specific amounts that count as 1 ounce equivalent of grains towards your daily recommended intake. In some cases the number of ounce-equivalents for common portions is also shown.

		Amount that counts as 1 ounce equivalent of grains	Common portions and ounce equivalents
<b>Bagels</b>	WG*: whole wheat RG*: plain, egg	1 "mini" bagel	1 large bagel = 4 ounce equivalents
<b>Biscuits</b>	(baking powder/ buttermilk—RG*)	1 small (2" diameter)	1 large (3" diameter) = 2 ounce equivalents
<b>Breads</b>	WG*: 100% Whole wheat RG*: white, wheat, French, sourdough	1 regular slice 1 small slice French 4 snack-size slices rye bread	2 regular slices = 2 ounce equivalents
<b>Bulgur</b>	cracked wheat (WG*)	½ cup cooked	
<b>Cornbread</b>	(RG*)	1 small piece (2½" x 1¼" x 1¼")	1 medium piece (2½" x 2½" x 1¼") = 2 ounce equivalents
<b>Crackers</b>	WG*: 100% whole wheat, rye RG*: saltines, snack crackers	5 whole wheat crackers 2 rye crispbreads 7 square or round crackers	
<b>English muffins</b>	WG*: whole wheat RG*: plain, raisin	½ muffin	1 muffin = 2 ounce equivalents
<b>Muffins</b>	WG*: whole wheat RG*: bran, corn, plain	1 small (2½" diameter)	1 large (3 ½" diameter) = 3 ounce equivalents
<b>Oatmeal</b>	(WG)	½ cup cooked 1 packet instant 1 ounce dry (regular or quick)	
<b>Pancakes</b>	WG*: Whole wheat, buckwheat RG*: buttermilk, plain	1 pancake (4 ½" diameter) 2 small pancakes (3" diameter)	3 pancakes (4 ½" diameter) = 3 ounce equivalents
<b>Popcorn</b>	(WG*)	3 cups, popped	1 microwave bag, popped = 4 ounce equivalents
<b>Ready-to-eat breakfast cereal</b>	WG*: toasted oat, whole wheat flakes RG*: corn flakes, puffed rice	1 cup flakes or rounds 1 ¼ cup puffed	
<b>Rice</b>	WG*: brown, wild RG*: enriched, white, polished	½ cup cooked 1 ounce dry	1 cup cooked = 2 ounce equivalents
<b>Pasta-- spaghetti, macaroni, noodles</b>	WG*: whole wheat RG*: enriched, durum	½ cup cooked 1 ounce dry	1 cup cooked = 2 ounce equivalents
<b>Tortillas</b>	WG*: whole wheat, whole grain corn RG*: Flour, corn	1 small flour tortilla (6" diameter) 1 corn tortilla (6" diameter)	1 large tortilla (12" diameter) = 4 ounce equivalents

\*WG = whole grains, RG = refined grains. This is shown when products are available both in whole grain and refined grain forms.

## Tips to help you eat whole grains

### At Meals:

- To eat more whole grains, substitute a whole-grain product for a refined product – such as eating whole-wheat bread instead of white bread or brown rice instead of white rice. It's important to *substitute* the whole-grain product for the refined one, rather than *adding* the whole-grain product.
- For a change, try brown rice or whole-wheat pasta. Try brown rice stuffing in baked green peppers or tomatoes and whole-wheat macaroni in macaroni and cheese.
- Use whole grains in mixed dishes, such as barley in vegetable soup or stews and bulgur wheat in casserole or stir-fries.
- Create a whole grain pilaf with a mixture of barley, wild rice, brown rice, broth and spices. For a special touch, stir in toasted nuts or chopped dried fruit.
- Experiment by substituting whole wheat or oat flour for up to half of the flour in pancake, waffle, muffin or other flour-based recipes. They may need a bit more leavening.
- Use whole-grain bread or cracker crumbs in meatloaf.
- Try rolled oats or a crushed, unsweetened whole grain cereal as breading for baked chicken, fish, veal cutlets, or eggplant parmesan.
- Try an unsweetened, whole grain ready-to-eat cereal as croutons in salad or in place of crackers with soup.
- Freeze leftover cooked brown rice, bulgur or barley. Heat and serve it later as a quick side dish.



### As Snacks:

- Snack on ready-to-eat, whole grain cereals such as toasted oat cereal.
- Add whole-grain flour or oatmeal when making cookies or other baked treats.
- Try a whole-grain snack chip, such as baked tortilla chips.
- Popcorn, a whole grain, can be a healthy snack with little or no added salt and butter.



### What to Look for on the Food Label:

- Choose foods that name one of the following whole-grain ingredients *first* on the label's ingredient list:

"brown rice"	"whole oats"
"bulgur"	"whole rye"
"graham flour"	"whole wheat"
"oatmeal"	"wild rice"
"whole-grain corn"	

  - Foods labeled with the words "multi-grain," "stone-ground," "100% wheat," "cracked wheat," "seven-grain," or "bran" are usually *not* whole-grain products.
  - Color is not an indication of a whole grain. Bread can be brown because of molasses or other added ingredients. Read the ingredient list to see if it is a whole grain.
- Use the Nutrition Facts label and choose products with a higher % Daily Value (%DV) for fiber – the %DV for fiber is a good clue to the amount of whole grain in the product.
- Read the food label's ingredient list. Look for terms that indicate added sugars (sucrose, high-fructose corn syrup, honey, and molasses) and oils (partially hydrogenated vegetable oils) that add extra calories. Choose foods with fewer added sugars, fats, or oils.
- Most sodium in the food supply comes from packaged foods. Similar packaged foods can vary widely in sodium content, including breads. Use the Nutrition Facts label to choose foods with a lower % DV for sodium. Foods with less than 140 mg sodium per serving can be labeled as low sodium foods. Claims such as "low in sodium" or "very low in sodium" on the front of the food label can help you identify foods that contain less salt (or sodium).

### Whole Grain Tips for Children

- Set a good example for children by eating whole grains with meals or as snacks.
- Let children select and help prepare a whole grain side dish.
- Teach older children to read the ingredient list on cereals or snack food packages and choose those with whole grains at the top of the list.