



# Kids in Nutrition

Encouraging the younger generation to  
lead healthier, more sustainable lives!

**Weekly Newsletter**  
**[kidsinnutrition.org](http://kidsinnutrition.org)**

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# Week 3: Grains

Grains are a type of complex carbohydrate that provides energy as well as vitamins, minerals, and fiber. They can be subcategorized into whole grains and refined grains. Whole grains keep you full for longer as they are digested more slowly due to their high fiber content. Consuming whole grains has been linked to lowering the risk of heart disease and type 2 diabetes. Choose whole grains in their whole form over refined grains in your diet!

## Lesson Objectives:

- Distinguish between whole and refined grains.
- Describe different sources of whole grains.
- Explain the importance of fiber.

## Whole or Refined?

Whole grains have all their nutrients intact and consist of the *entire* grain seed, called the kernel. The kernel is made up of three components:



- 1) Bran – this outermost layer protects the kernel from damage and gives whole grains their generally brown color.
- 2) Endosperm – this middle layer is the largest component of the whole grain as it contains starchy carbohydrates, protein, vitamins, and minerals.
- 3) Germ – this innermost layer contains vitamins, minerals, and healthy fat.

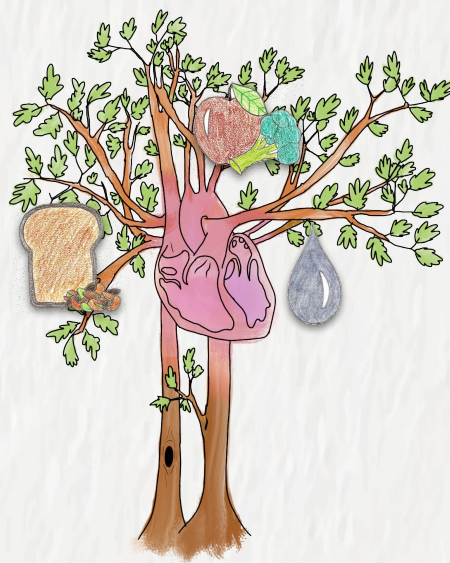
The bran and germ components are high in dietary fiber.



Refined grains are processed in a mill to clear away the bran and germ, leaving just the endosperm. All the important fiber and nutrients have been removed. This processing gives refined grains their generally white color and smoother texture. Despite their longer shelf life, refined grains are the nutrient-poor option.

**Fiber** is a complex carbohydrate that comes from plants and can't be absorbed by the digestive system. There are two main types: **soluble** and **insoluble**.

- ❖ Soluble fiber dissolves in water and turns into a gel-like substance, helping to slow digestion and lower blood sugar and cholesterol levels. Found in oatmeal, nuts, and beans.
- ❖ Insoluble fiber does not dissolve in water but remains intact in the digestive tract. It helps food move through your digestive system, prevents constipation, and supports regular bowel movements. Found in whole wheat bread, brown rice, and the skins of fruits.



## KIN's Healthy Heart Tree

## Sources of Whole Grains:

- ❖ Oats
- ❖ Brown rice
- ❖ Buckwheat
- ❖ Corn
- ❖ Whole-wheat bread, pasta, tortillas, and crackers



## Weekly Challenge!

Whenever you eat grains, eat only whole grains, and as a bonus, try out a new grain you have never had before!