Like all grains, wheat began as a wild grass, and may in fact have been the very first crop in history. Historians believe the wheat kernel originated in the “cradle of civilization,” the Tigris and Euphrates river valley, near present day Iraq. In their natural state growing in the fields, whole grains begin as a dry, one-seeded fruit commonly called a kernel. The kernel—also known as the “caryopsis” or wheat berry—is the seed from which the wheat plant grows. It’s also the part we grind to produce flour or semolina. Each kernel contains three distinct, edible parts that are separated during the milling process.

**Endosperm** Comprising about 83 percent of the kernel weight, the endosperm is the germ’s food supply. It’s also the source of white flour. In its natural state, the endosperm provides essential energy to the young wheat plant, allowing the plant to send roots down for water and nutrients and shoot sprouts up for sunlight.

**Bran** Approximately 14.5 percent of the kernel weight, the bran is the multi-layered, hard outer covering of the wheat kernel. Bran is included in whole wheat flour and can also be purchased as a stand-alone grain. Bran consists of important antioxidants, B vitamins and fiber.

**Germ** Comprising only 2.5 percent of the kernel weight, the germ is the embryo, or sprouting section, of the kernel. The germ is the part of the wheat kernel that will sprout and grow into a new wheat plant. During the milling process, the germ is often separated from flour because the fat content limits the flour’s shelf-life. It is stabilized and then put back in to keep the flour “whole.” Like the bran, the germ contains many B vitamins. It also consists of protein, minerals and healthy fats.

These three parts are protected by an inedible husk that shields the kernel from potential hazards such as sunlight, pests, water and disease. Wheat kernels vary in both texture and color, from white or red to sometimes even purple.

**Whole Grains vs. Enriched Grains** More than 17,000 years ago, humans gathered the seeds of wheat plants as an important food source. After rubbing off the inedible husk covering the wheat kernel, they consumed the kernels raw, parched or simmered.

Today, whole grain products still contain the entire kernel of grain. As the name suggests, a whole grain is any grain that maintains all three of its parts in the same proportion found in the original kernel. The bran (outer layer) provides the bulk of the fiber (insoluble), B vitamins, trace minerals, and a small amount of protein. The middle layer — the endosperm — is the primary source of protein and carbohydrates, and also contains B vitamins, iron and soluble fiber. The germ (inner part) is a rich source of trace minerals, unsaturated fats, B vitamins, antioxidants and phytochemicals, as well as a minimal amount of high quality protein.

Enriched grains are produced using only the endosperm of the kernel. Some of the nutrients that are milled out during the production process are replaced through enrichment. Slice for slice, enriched white bread—as well as other enriched grain products—are a good source of iron and B vitamins, as well as complex carbohydrates. Additionally, enriched grain products have two times more folic acid than whole wheat products.