

The Wheat Kernel

- A wheat kernel has _____ main parts.
- Bran: _____
- Endosperm: _____
- Germ: _____

Carbohydrates

- Carbohydrates are the body's main source of _____.
- Wheat contains _____ carbohydrates, which provide long-lasting energy.
- _____ is an indigestible carbohydrate that improves _____ and reduces _____ and _____.

Protein

- Protein helps build strong _____, muscles and organs.
- Proteins are made of _____ acids.
- Wheat contains _____ of the 20 amino acids needed by the body.
- Eating wheat with foods like _____ or _____ can create a complete meal.

Fat

- Fat helps store _____ and supports hormones and cells.
- Wheat is naturally _____ in fat.
- Most fat in wheat comes from the _____.
- Bread and pasta are considered _____-fat foods.

Vitamins

- Thiamine (B1) – helps with _____ and nerves
- Riboflavin (B2) – supports _____ and vision
- Niacin (B3) – helps the body use _____
- Folic Acid (B9) – helps make _____ blood cells

Minerals

- Iron – helps blood carry _____
- Zinc – helps with _____ healing and growth
- Selenium – supports healthy _____ and skin
- Magnesium – helps muscles, heart and _____

Gluten

- Gluten is a _____ protein found in wheat.
- Gluten gives bread and pasta their _____ and chewiness.
- Celiac Disease: _____
- Non-celiac gluten sensitivity: _____
- Wheat allergy: _____



Wheat Nutrition Guided Notes

Types of Flour

- Whole wheat flour includes the _____, _____ and _____.
- Refined flour is made from the _____ only.
- Enriched flour has _____ and _____ added back.
- Fortified flour contains extra _____ to help prevent birth defects.

Other Notes:

The Wheat Kernel

- A wheat kernel has 3 main parts.
- Bran: The outermost protective layer of the wheat kernel is rich in fiber and nutrients and makes up approx. 14.5% of the kernel weight. It is separated during milling to produce refined flour. The bran layers are included in whole wheat flour and can also be sold separately.
- Endosperm: The starchy middle layer of the wheat kernel makes up approx. 83% of the weight. It is ground into flour and contains carbohydrates, protein and vitamins. White flour is composed of the endosperm.
- Germ: The nutrient-dense embryo of the wheat plant makes up approx. 2.2% of the kernel weight. While it is important for the growth of the wheat plant, it is not included in enriched flour because it can limit shelf life due to the high fat content in the germ.

Carbohydrates

- Carbohydrates are the body's main source of energy.
- Wheat contains complex carbohydrates, which provide long-lasting energy.
- Fiber is an indigestible carbohydrate that improves digestion and reduces cholesterol and inflammation.

Protein

- Protein helps build strong bones, muscles and organs.
- Proteins are made of amino acids.
- Wheat contains 8 of the 20 amino acids needed by the body.
- Eating wheat with foods like animal protein or legumes can create a complete meal.

Fat

- Fat helps store energy and supports hormones and cells.
- Wheat is naturally low in fat.
- Most fat in wheat comes from the germ.
- Bread and pasta are considered low-fat foods.

Vitamins

- Thiamine (B1) – helps with digestion and nerves
- Riboflavin (B2) – supports growth and vision
- Niacin (B3) – helps the body use protein
- Folic Acid (B9) – helps make red blood cells

Minerals

- Iron – helps blood carry oxygen
- Zinc – helps with skin healing and growth
- Selenium – supports healthy eyes and skin
- Magnesium – helps muscles, heart and nerves

Gluten

- Gluten is a naturally occurring protein found in wheat.
- Gluten gives bread and pasta their structure and chewiness.
- Celiac Disease: an autoimmune disorder that causes the immune system to attack the small intestine when gluten is consumed
- Non-celiac gluten sensitivity: a syndrome where a person experiences digestive discomfort after consuming foods containing gluten
- Wheat allergy: an immune reaction to the proteins in wheat

Types of Flour

- Whole wheat flour includes the bran, endosperm and germ.
- Refined flour is made from the endosperm only.
- Enriched flour has B vitamins and iron added back.
- Fortified flour contains extra folic acid to help prevent birth defects.