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# **CARB is not a 4-letter word**

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**Fats, Oils & Sweets**  
**USE SPARINGLY**

**KEY**

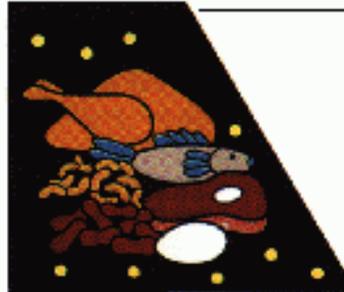
- Fat (naturally occurring and added)
- ▼ Sugars (added)

These symbols show fats and added sugars in foods.

**Milk, Yogurt & Cheese Group**  
**2-3 SERVINGS**



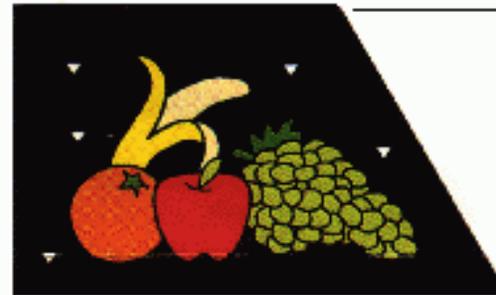
**Meat, Poultry, Fish, Dry Beans, Eggs & Nuts Group**  
**2-3 SERVINGS**



**Vegetable Group**  
**3-5 SERVINGS**



**Fruit Group**  
**2-4 SERVINGS**



**Bread, Cereal, Rice & Pasta Group**  
**6-11 SERVINGS**



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# What are carbohydrates & why do we need them?

- Complex carbohydrates: starch or fiber
  - Simple carbohydrates: sugars
  
  - Glucose from carbs is the preferred fuel for most body functions
  - Nerve cells (including those from the brain) depend almost exclusively on glucose for energy
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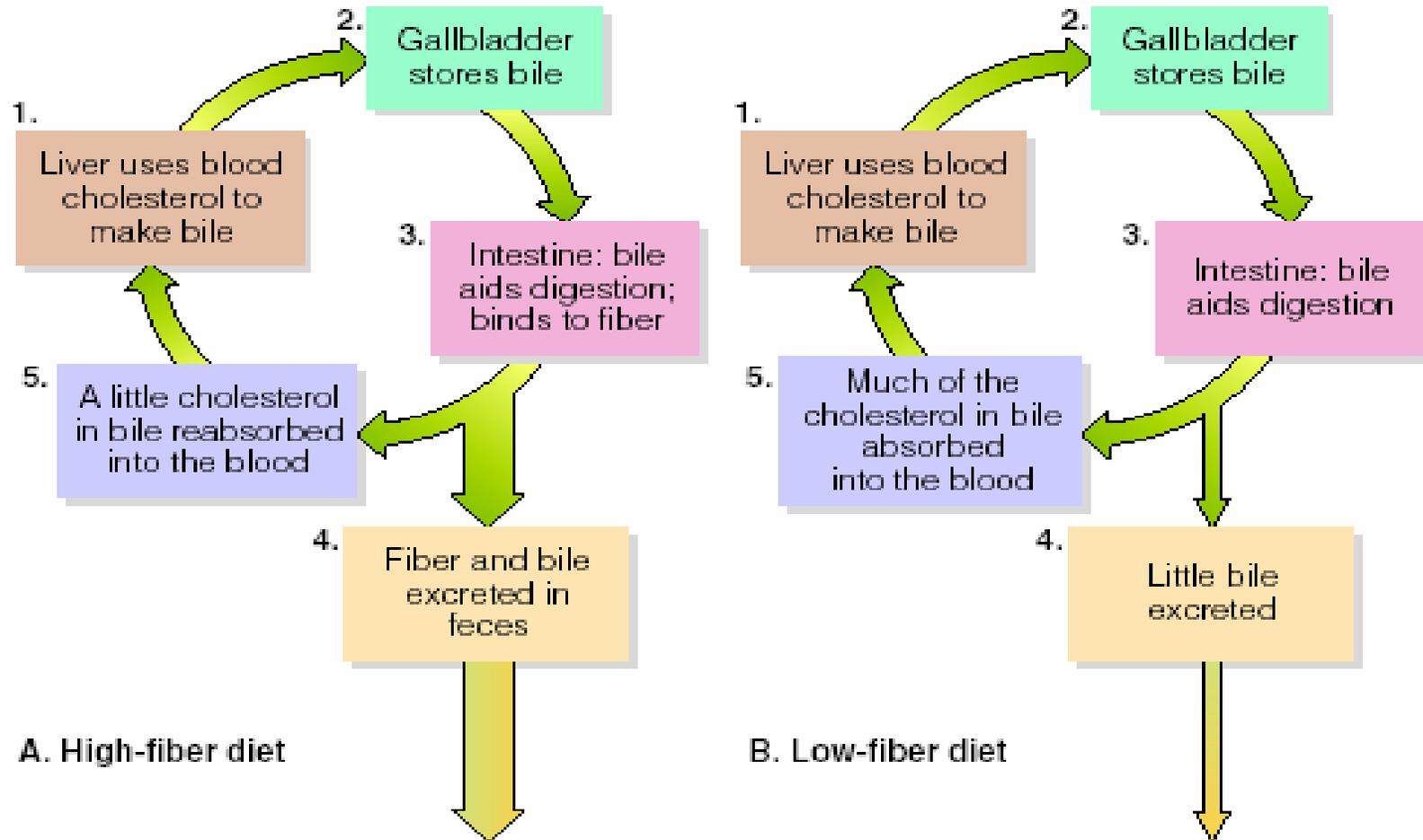
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# Benefits of Fiber

- Displaces fats and sweets
  - Delay cholesterol absorption
  - Bind bile for excretion
  - Absorbs water – promotes fullness
  - Prevent diverticulosis, constipation, hemorrhoids
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# Benefits of CARBS

- Folate, vitamins B<sub>6</sub>, B<sub>12</sub>
  - ❑ Reduce homocysteine (amino acid with elevated levels associated with increased risk of CVD)
- Soluble fiber (oat bran, barley)
  - ❑ Lowers blood cholesterol, risk of heart attack, improves LDL-HDL ratio
  - ❑ Lowers insulin levels



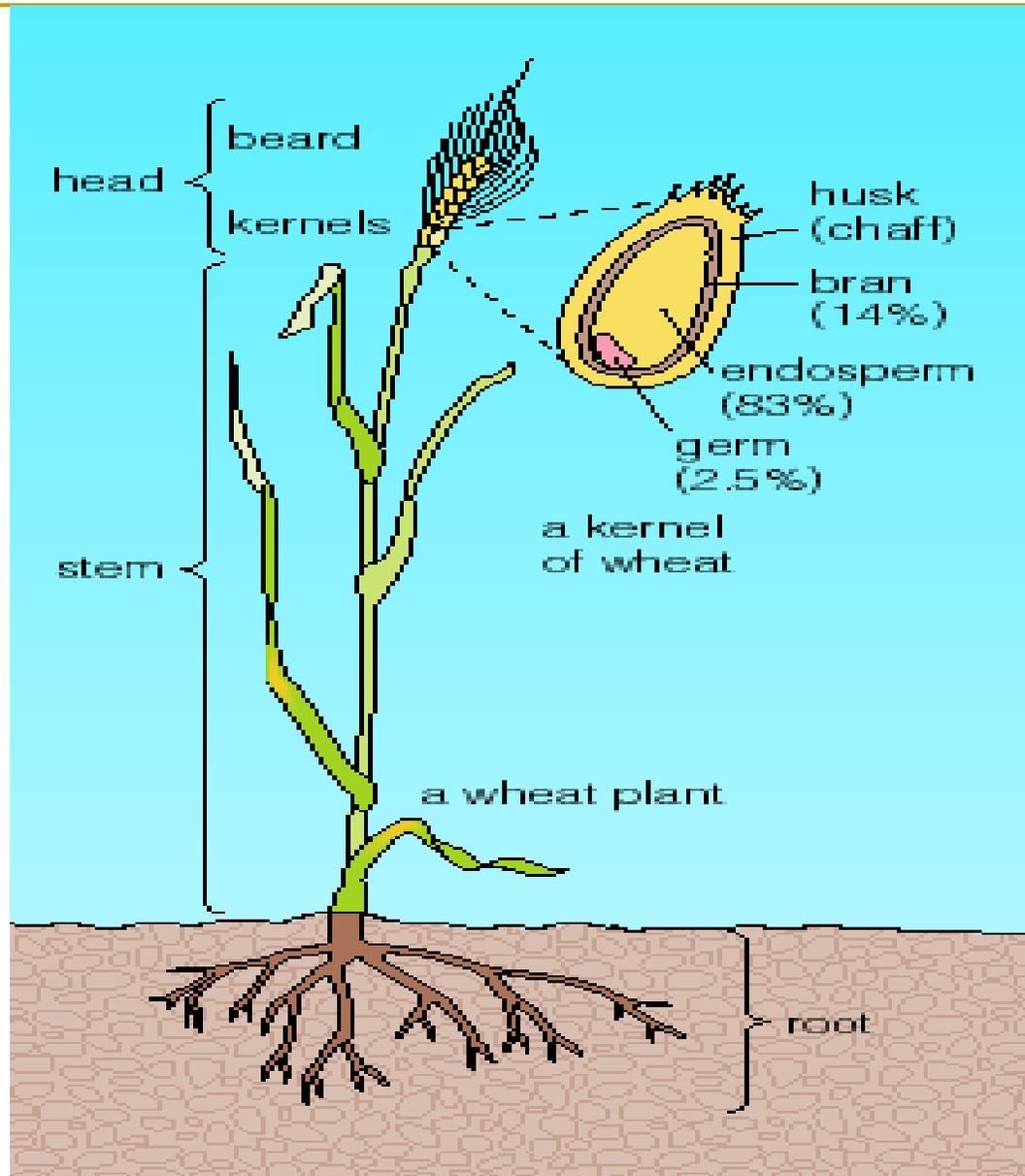
- A. When the diet is rich in fiber, much of the cholesterol (as bile) is carried out of the body.
- B. When the diet is low in fiber, most of the cholesterol is reabsorbed and returned to the bloodstream.

## One way Fiber in Food May Lower Blood Cholesterol

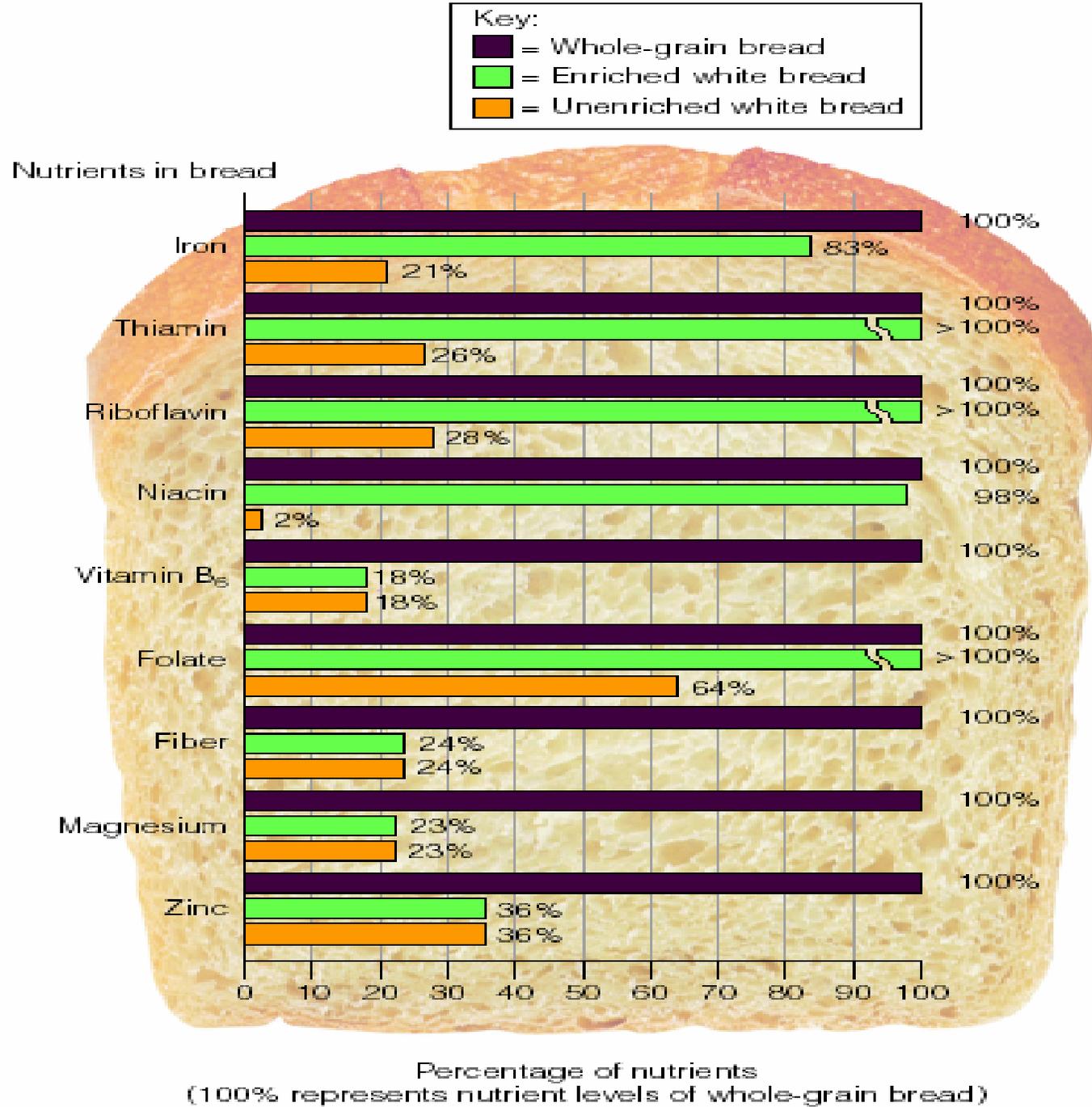
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# CARB Food Sources

- Whole grains vs. starchy carbohydrates
  - Sugars
  - Fruits
  - Vegetables
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**A Wheat Plant and a Kernel of Wheat**





# Whole Grain WHOLE WHEAT

## Nutrition Facts

Serving size 1 slice (30g)  
Servings Per Container

### Amount per serving

Calories 90      Calories from Fat 14

### % Daily Value\*

Total Fat 1.5g      2%

Sodium 135mg      6%

Total Carbohydrate 15g      5%

Dietary fiber 2g      8%

Sugars 2g

Protein 4g

**MADE FROM:** UNBROMATED STONE GROUND 100% WHOLE WHEAT FLOUR, WATER, CRUSHED WHEAT, HIGH FRUCTOSE CORN SYRUP, PARTIALLY HYDROGENATED VEGETABLE SHORTENING (SOYBEAN AND COTTONSEED OILS), RAISIN JUICE CONCENTRATE, WHEAT GLUTEN, YEAST, WHOLE WHEAT FLAKES, UNSULPHURED MOLASSES, SALT, HONEY, VINEGAR, ENZYME MODIFIED SOY LECITHIN, CULTURED WHEY, UNBLEACHED WHEAT FLOUR AND SOY LECITHIN.



# Natural Wheat Bread

## Nutrition Facts

Serving size 1 slice (30g)  
Servings Per Container 15

### Amount per serving

Calories 90      Calories from Fat 14

### % Daily Value\*

Total Fat 1.5g      2%

Sodium 220mg      9%

Total Carbohydrate 15g      5%

Dietary fiber less than 1g      2%

Sugars 2g

Protein 4g

**INGREDIENTS:** UNBLEACHED ENRICHED WHEAT FLOUR [MALTED BARLEY FLOUR, NIACIN, REDUCED IRON, THIAMIN MONONITRATE (VITAMIN B1), RIBOFLAVIN (VITAMIN B2), FOLIC ACID], WATER, HIGH FRUCTOSE CORN SYRUP, MOLASSES, PARTIALLY HYDROGENATED SOYBEAN OIL, YEAST, CORN FLOUR, SALT, GROUND CARAWAY, WHEAT GLUTEN, CALCIUM PROPIONATE (PRESERVATIVE), MONOGLYCERIDES, SOY LECITHIN.



$\frac{1}{2}$  c canned corn = 3 tsp sugar<sup>a</sup>

12 oz cola = 8 tsp sugar

1 tbs ketchup = 1 tsp sugar

1 tbs creamer = 2 tsp sugar

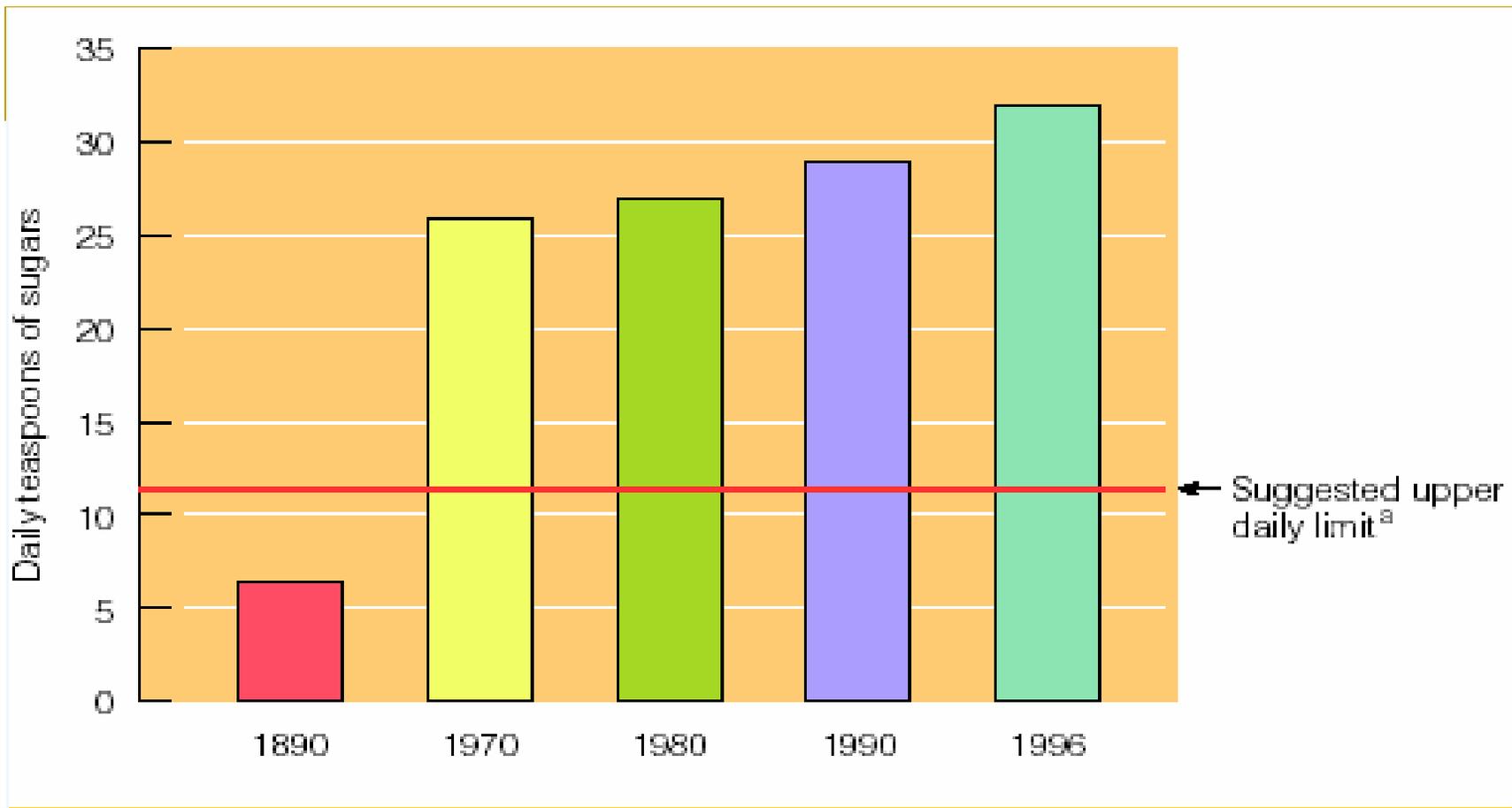
8 oz sweetened yogurt = 7 tsp sugar

2 oz chocolate = 8 tsp sugar

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<sup>a</sup>Values based on 1 tsp = 4 g.

## Sugar in Processed Food



SOURCE: U.S. Department of Agriculture, Economic Research Service, *A Dietary Assessment of the U.S. Food Supply: Comparing Per Capita Food Consumption with the Food Guide Pyramid Serving Recommendations*, AER no. 772 (Washington, D.C.: Government Printing Office 1998), p. 25.

## **Added Sugars: Average Supply Per Person in the United States, 1890–1996**



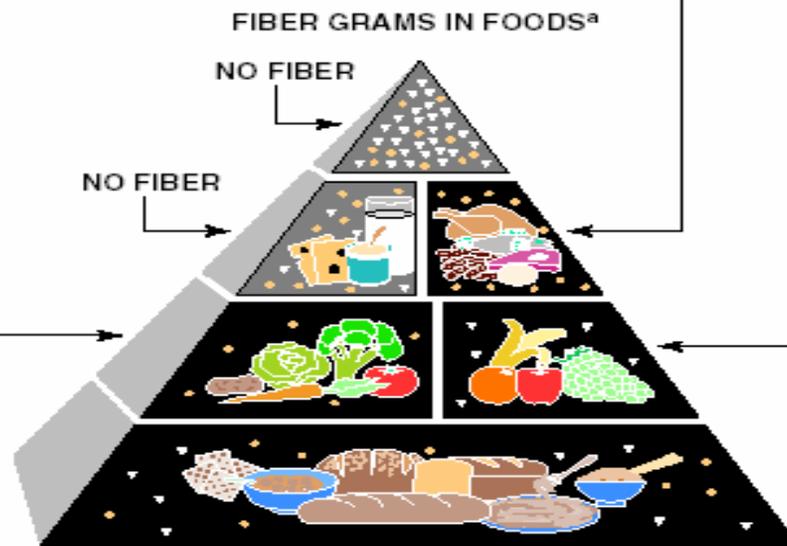
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**The Average U.S Citizen is provided with 100 pounds of added sugars each year.**

Vegetable Group	
Food	Fiber g
Baked potato with skin, 1	5
Brussels sprouts, 1/2 c	3
Carrot juice, 3/4 c	2
Broccoli, 1/2 c	2
Asparagus, 1/2 c	2
Corn, 1/2 c	2
Celery, 1/2 c	2
Green beans, 1/2 c	2
Spinach, 1/2 c	2
Baked potato, no skin, 1	2
Cauliflower, 1/2 c	2
Carrots, 1/2 c	2
Cabbage, 1/2 c	2
Onions, 1/2 c	1
Tomato, raw, 1 medium	1
Eggplant, 1/2 c	1
Lettuce, raw, 1 c	1
Bell peppers, 1/2 c	1
Dill pickle, 1 whole	1
Tomato juice, canned, 3/4 c	1

Meat, Poultry, Fish, Dry Beans, Eggs, and Nuts Group	
Food	Fiber g
Dried beans, 1/2 c	8
Lentils or peas, 1/2 c	5
Nuts, 1/4 c	2
Peanut butter, 2 tbs	2



Fruit Group	
Food	Fiber g
Prunes, cooked, 1/4 c	4
Pear, raw, 1 medium	4
Blackberries/raspberries, raw, 1/2 c	4
Apple/orange, raw, 1 medium	3
Apricots, raw, 3 each	3
Banana, raw, 1	2
Other berries, raw, 1/2 c	2
Peach, raw, 1 medium	2
Fruit cocktail, canned, 1/2 c	1
Raisins, dry, 1/4 c	1
Cantaloupe, raw, 1/2 c	1
Cherries, raw, 1/2 c	1
Apple juice, 3/4 c	<1
Orange juice, 3/4 c	<1

Breads, Cereals, Rice, and Pasta Group	
Food	Fiber g
100% bran cereal, 1 oz	8
Barley, whole grain, 1/2 c	7
Muffin, bran, 1	4
Wheat flakes, 1 oz	3
Shredded wheat, 1 large biscuit	2
Oatmeal, 1/2 c	2
Puffed wheat, 1 1/2 c	2
Whole-wheat bread, 1 slice	2
Light rye bread, 1 slice	2
Pumpernickel bread, 1 slice	2
Popcorn, 2 c	2
Brown rice, 1/2 c	2
Cheerios, 1 oz	2
Corn flakes, 1 oz	1
Pasta, <sup>b</sup> 1/2 c	1
Muffin, blueberry, 1	1
White rice, 1/2 c	<1
White bread, 1 slice	<1

<sup>a</sup>All values are for ready-to-eat or cooked foods, unless otherwise noted. Fruit values include edible skins. All values are rounded values.

<sup>b</sup>Pasta includes spaghetti noodles, lasagna noodles, and other noodles made from enriched white flour. Whole-wheat pastas have significantly more fiber.