

Chapter Ten Eating for a Healthier You

**13th edition,
Pages 270-299**

**12th edition,
chapter 9
pages 262-291**

The History of Food Groups
The Basic 7 Food Groups (1916)

The Basic 4 Food Groups (1943)

The Food Guide Pyramid (1980)

MyPlate Plan (2011)

Choose MyPlate.gov

FAST FOOD Facts *not in texts*

- 1 in 4 Americans visits a fast food restaurant each day. *nearly 33% of US adult's food consumption is junk food*
- In 1972, Americans spent \$3 billion on fast food, today we spend more than \$110 billion
- College males spend \$99.17, women \$52.11 each month
- French fries are the most eaten 'vegetable' in the US
- Americans eat more than 1 million animals an hour
- 75 gallons of oil is used to bring one cow to market plus hundreds of gallons of water
- Most nutritionists recommend not to eat fast food more than one a month (*this includes taco trucks*)
- The average fast food meal contains over half (1250 calories) of the 2000 daily recommended number of calories
- 90% of US snack and fast food have some form of heavily subsidized corn or soy product.

"The drive-thrus are killing more people than the drive-bys."

2018 excessive calorie meals *not in texts*

The Center for Science in the Public Interest recently published it's Xtreme Eating Awards and it's not just fast food that serves up excessive calories:

Red Robin's Peppercorn Burger: 3,500 calories served with bottomless fries and x-large shake. 63 gm sat. fat; 38 teaspoons sugar; 6280 gm sodium (*salt*) 12 hours brisk walking to burn off meal

Cheesecake Factory's Brulee French Toast: 2780 calories, 93 gm sat. fat; 2230 gm sodium, 24 teaspoons sugar (3/4 cup); 7 hours exercise required.

BJ's 11" Chicken Bacon Ranch Pizza: 2160 calories; 30 gm sat. fat; 4680gm sodium (*3 day's worth*); 5.5 hours exercise required

Carl's Junior Monster Thick Burger: 1420 calories; 107 gm sat. fat

Read calorie content on menus before ordering!

What makes us eat what we do? *not in texts*

- culture and family
- availability and convenience
- smell and appearance
- habit – custom
- cost and value
- nutrition
- emotional comfort/
social interaction.

The Sea Food Bar!

- Prawns
- Ocean Tails
- Oyster K3
- Mussels
- Cockles
- Whelks
- Crab Sticks
- Shrimps
- Winkles
- Jellied Eels
- Dressed Crab
- Seafood Platters
- Lobster Tail Platters
- Seafood Kebab

the 2018 American diet *not in texts*

Here's what Americans eat every day (all percentages represent portion of daily total consumption)

- Meat and poultry 7.9%
- Fruit 5.2%
- Milk and grain yogurt 5.1%
- Fish and seafood 0.8%
- Vegetables 0.7%

- Unprocessed or minimally processed foods: 32.6%
- Processed foods: 9.4%
- Ultra-processed foods: 57.9%

Ultra-processed foods breakdown:

- Breads and cereal: 12.3%
- Cake, ice cream and other sweets: 12.2%
- Soda and fruit drinks: 7%
- Frozen and packaged meals: 6.02%
- Pizza: 3.5%
- Water: 4.7%
- Other: 2.2%
- Alcohol: 1.2%
- Milk-based drinks: 1.8%

- Nearly 60% of diets comes from ultra processed food (blue)
- 90% of sugar comes from ultra processed food
- American consume nearly 100 lbs. of added sugar per year!
- Sugar leads to overweight, diabetes, heart disease
- High salt foods tend to make people over eat, increase blood pressure.

estimated daily caloric needs *13th edition, pp 271-272, 12th edition, p. 264*

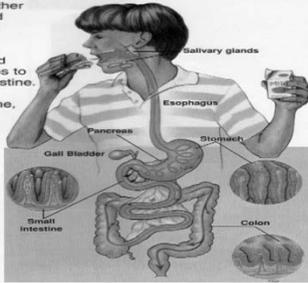
	Calorie Range	
	Sedentary ^a	Active ^b
Children		
2 to 3 years old	1,000	→ 1,400
Females		
4 to 13 years old	1,200–1,600	→ 1,400–2,200
14 to 18	1,800	→ 2,400
19 to 25	2,000	→ 2,400
26 to 50	1,800	→ 2,200–2,400
51 to 55	1,600	→ 2,000–2,200
Males		
4 to 12 years old	1,200–1,800	→ 1,600–2,400
13 to 18	2,000–2,400	→ 2,600–3,200
19 to 20	2,600	→ 3,000
21 to 40	2,400	→ 2,800–3,000
41 to 60	2,200	→ 2,800
61+	2,000	→ 2,400–2,600

a = only light physical activity
b = activity equivalent to walking more than 3 miles per day at brisk pace.

the digestive process

not in texts

1. In the mouth, the teeth and tongue break food into small particles and mix them with saliva, which begins the chemical breakdown of the food.
2. In the stomach, muscles lining the stomach further mix food, as acids and enzymes continue the chemical breakdown.
3. The gallbladder and pancreas add enzymes to those in the small intestine.
4. In the small intestine, enzymes continue to break down food, and special cells absorb the nutrients, which the blood carries to body cells where metabolism takes place.
5. In the colon, cells continue to absorb the remaining minerals and water, leaving the fiber to be eliminated as waste product.



essential nutrients

13th edition pp. 271-276; 12th edition, pp. 264-268

- **Proteins:** The building blocks of the body needed for growth, maintenance and replacement of body cells. **30% recommended for your diet**
- **Fats:** provide energy and serve as carrier for certain vitamins. Saturated fats are solid at room temps: animal fats. Unsaturated: commonly in vegetable oils 95% as triglycerides in our bodies, 5% as cholesterol. **30% recommended for your diet**
- **Carbohydrates:** organic compounds that provide our body and brain with glucose, often referred to as sugars. Complex carbohydrates are grains, vegetables, simple carbohydrates are fruits, refined sugar. **40% recommended for your diet.**



essential nutrients, con't

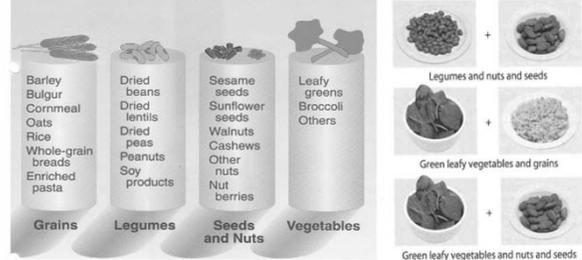
- **Water:** the essential substance that helps in digestion, elimination, and maintenance of bodily fluids and temperature...60-70% of our body is water! We need equivalent of 9-12 8oz. glasses a day.
- **Fiber:** also called bulk or roughage. Helps move food through the digestive process. Best found in complex carbohydrates such as grains, seeds, beans. Helps against colon and breast cancers plus heart disease, diabetes, and obesity.
- **Vitamins:** organic substances needed in very small amounts by the body to perform a variety of functions. There are two types: water soluble dissolve in water, and fat soluble which absorb through intestines with fat
- **Minerals:** naturally occurring inorganic substances that are needed in small amounts for certain essential function of the body.

Note: you still need a balanced diet to absorb vitamins and minerals!

complimentary proteins

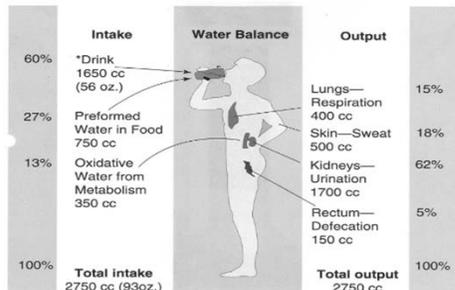
13th edition, pp. 272-273; 12th edition, pp. 264-265

Eating combinations of two different types of these protein-rich foods results in a process known as *mutual supplementation*, in which complementary proteins are formed. Complementary proteins contain all of the essential amino acids and thus help avoid protein deficiencies.



the ins and outs of water

13th edition, p. 272; 12th edition, p. 264 (diagram not in books)

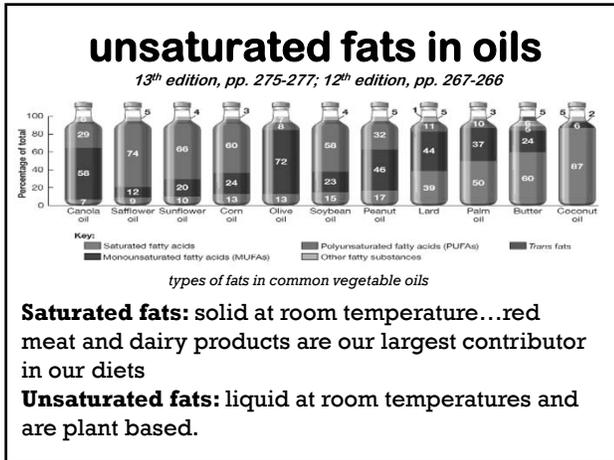


We need equivalent of 9-12 8oz. glasses of water per day or 70-90 oz. per day

good v. bad fats - TransFats

13th pp. 275-277; 12th edition, pp. 267-270

- Trans fats are artificially created as a side effect of partial hydrogenation (adding hydrogen to plant oil)
- trans fats are great for food processors because:
 - better shelf life
 - stabilizes flavour
- molecular structure of trans fats or hydrogenated fats adds to coronary disease & high cholesterol
- 228,000 deaths annually are attributed to the consumption of trans fats due to coronary disease
- not allowed in most European countries. Many US cities and states are beginning to legislate removal. Some companies, KFC, Starbucks, etc. have already voluntarily removed
- from Jan'06 must be noted on US food labels
- good fats (Omega-3's): eat in moderate amounts: fats from fatty fish (salmon, tuna, herring) and vegetable oils (olive, canola).



changing the meat and potatoes diet

not in texts

- heavy red meat eaters are twice as likely to get prostate cancer and colon cancer
- three servings of fruit or vegetables can reduce the risk of stroke by 22%
- reduction in saturated fat intake with red meats also having a high incidence of growth hormones and anti-biotics.

According to the new report, that much daily processed meat increases the risk of colorectal cancer by 18%, in practice, that looks like:

- 1 hot dog
- 2 slices of ham
- 5 slices of hard salami
- 2 slices of Canadian bacon

My Plate Food Guidance System

13th 283-284; 12th edition, pp. 275-276

Make half your plate fruits and vegetables
Eat red, orange, and dark-green vegetables, such as tomatoes, sweet potatoes, and broccoli, in main and side dishes.
Eat fruit, vegetables, or unsalted nuts as snacks they are nature's original fast foods.

Switch to skim or 1% milk
They have the same amount of calcium and other essential nutrients as whole milk, but less fat and calories. Try calcium-fortified soy products as an alternative to dairy foods.

Make at least half your grains whole
Choose 100% whole-grain cereals, breads, crackers, rice, and pasta. Check the ingredients list on food packages to find whole-grain foods.

Vary your protein food choices
Twice a week, make seafood the protein on your plate.
Eat beans, which are a *natural* source of fiber and protein.
Keep meat and poultry portions small and lean.

Choose **MyPlate.gov**

correct serving sizes

13th edition, pp. 285-87; 12th edition, p 279 (different diagram)

Serving Looks Like...	Serving Looks Like...
Grain Products 1 cup of cereal flakes – flat 1 pancake – compact disc ½ cup of cooked rice, pasta, or potato = ½ baseball 1 slice of bread = cassette tape 1 piece of cornbread – bar of soap	Vegetables and Fruit 1 cup of salad greens – baseball 1 baked potato – flat 1 medium fruit = baseball ½ cup of fresh fruit = ½ baseball ¼ cup of raisins – large egg
Dairy and Cheese 1 ½ oz. cheese = 4 stacked discs or 2 cheese slices ½ cup of ice cream = ½ baseball	Meat and Alternatives 3 oz. meat, fish, and poultry – deck of cards 3 oz. grilled or baked fish – checkbook 2 Tbsp. peanut butter = ping pong ball
Fats 1 tsp. margarine or spreads = 1 disc	

great strategy: lessen plate, bowl and glass sizes

medical value of food

13th pp. 287-288; 12th edition, pp. 273

- antioxidants:** helps reduce incidents of some cancers and heart disease. Found in most fruit and vegetables and vitamin C. Studies show antioxidants reduce 'free radicals' which can damage tissue and aging
- foliate:** or folic acid. A form of vitamin B believed to protect against cardiovascular diseases
- probiotics:** microorganisms found in fermented foods such as yogurts to help digestive process.
- daily supplements:** 52% of US adult take some sort of daily supplements costing \$23 billion annually. No medical research has determined beneficial effect in many instances.
Primary sources such as fruits, vegetables, whole grains and lean protein when consumed in balanced amounts are best!

Vegetarianism – a healthy diet?

13th edition, pp. 285-287; 12th edition, pp. 279-280

- Approx. 9% of Americans or 9 million people are vegetarians
- Vegans avoid all animal products including dairy products and eggs; eating nuts, veg., grains, fruits
- Lacto-vegetarians avoid animal flesh and eggs
- Semi-vegetarians (*non-red meat eaters*) eat chicken, fish, dairy products
- Reasons are varied from personal to striving for a more healthy diet
- Need to purposefully eat balanced meals with complimentary proteins such as soy or other protein alternatives
- Supplements to avoid vitamin/mineral deficiencies.

when funds are short

13th p. 287; 12th edition, pp. 281-282

- eat foods when in season
- never go to the market hungry
- make a shopping list...just don't wander
- shop at warehouse or large chain stores
in Modesto: WinCo & Food Maxx have best overall prices
- use coupons in newspaper or on-line
- buy in volume, and divide into zip-lock bags
- cook a large meal and freeze small portions
- try not to buy convenience or prepared foods
- Grow your own fruit/veg
- Avoid fast food, taco trucks, or coffee bars which are far more expensive than buying foods from a market and preparing it yourself... *college males spend on average \$99.17 on fast food a month!*



eating well in college

13th edition, pp. 288-289; 12th edition, pp. 281-282

- eat a balanced whole grain breakfast to start your day!
- avoid mayonnaise or creamy dressings, hold the cheese
- avoid the false economy of 'super-sizing' a meal
- order skinless chicken breast sandwiches broiled, not breaded or fried...try baked 'fries'
- if you order a salad, watch fatty or high calorie dressings, ask for dressing on the side
- avoid lard or saturated fat foods
- drink water instead of sugary drinks
- healthy options: Subway's, Togo's, Sandwich Shop on Kansas, Scotts Subs down street on east side of Carpenter, or sandwich and deli shops,
- be prepared: pack a meal or lunch... energy bars, veg. or fruit in zip-lock bags, etc.



\$5.00 dinner in 5 minutes



Canned salmon \$.2.29
 avocado .70
 spinach
 Tomatoes
 broccoli
 Cucumber
 Olives
 Croutons
 Olive oil/vinegar dressing
 1 lg. glass fuzzy water
\$5.09

organic foods

13th edition, pp. 290-291; 12th edition, pp. 282-283



- **Organically grown food:** passed guidelines and test demonstrating that at least 95% produced without hormones, antibiotics, genetic modification, or germ-killing radiation
- fastest growing segment of grocery market
- several farms and dairies in San Joaquin valley participate in Organic production
- most beneficial in foods that are high in artificial substance absorption: dairy, meats, thin skinned vegetables and fruits
- less beneficial in thick skinned foods: bananas, oranges
- more important for young who are more sensitive to additives in foods.

food safety

13th edition, pp. 289-290; 12th edition, pp. 284-285

- wash your hands, and clean food prep area before beginning
- most meats, poultry or fish last only two days in the frig. if it smells or looks bad...toss it! (3 day rule)
- be observant of packaging and damage in stores
- never thaw frozen foods at room temperature
- never leave cooked foods standing uncovered or out for longer than two hours
- cook all meats thoroughly
- do not use the same cutting boards for meats and vegetables... keep your cutting boards clean.
- do not cross contaminate
- Four core practices:



modern food concerns

13th edition, pp. 293-294; 12th edition, pp. 284-286

- **food additives:** additives are added to reduce risk of food borne illness, enhance the look and taste, and increase shelf life. Some additives can enhance nutrient value. Studies show however, the less additives, the better in many instances
- **food allergies:** Hyper sensitivity to a food. With many foods ingredients being added to processed foods, it is increasingly important to read food labels. Peanut allergies are the most common
- **food intolerance:** Can cause gastric or stomach upset. Lactose intolerance (compound found in milk) is the most common
- **irradiation:** process that involves treating foods with waves of low dose radiation to kill microorganisms and increase shelf life.



modern food concerns, *con't*

13th edition, pp. 291-293; 12th edition, pp. 284-286

- **Locavores:** The movement to eat more locally produced foods. Most food in the U.S. travels 1500 miles to consumers. Increasing evidence that foods lose nutritional value after several days, along energy costs of transport reduce benefit.
 - **gluten free:** foods without Gluten which is a protein found in wheat, rye, and barley which can cause Celiac disease which is an inherited autoimmune disease affecting the small intestine stopping nutrient absorption and causing pain, cramping, bloating, and other symptoms.
 - **genetically modified foods (GM foods):** The insertion or deletion of genes into the DNA of an organism. GM foods are sometimes created to improve yield, make them insect/drought resistant, or improve color, appearance or enhance nutrition. Tomatoes were the first foods to be modified to make them harder when ripe to allow mechanized processing. Cotton, soybean and corn are the most commonly foods modified
- good pro/con piece on p. 294 in 13th and 287 in 12th edition



high fructose corn syrup

not in texts

- This inexpensive sweetener is converted from corn starch and used in many products
- North Americans consume on over 35.7 pounds a year
- Found primarily in sodas which are the # 1 cause of childhood obesity
- Concern through numerous studies of the human body's inability to process product's molecular structure
- Other studies have found association to mid-section fat retention and intake of high fructose corn syrup



healthy eating simplified

not in texts

- Don't buy food in fancy packages...shop the perimeter of the store
 - Let the 'my plate' concept guide you: half veg., quarter lean protein, quarter whole grains. Fruits should be dessert
 - Eat natural snacks of fresh or dried fruit, veg, low fat cheese, yogurt, or nuts
 - Eat slowly and chew your food to reduce calorie consumption
 - Mix it up...vary your foods
 - Don't make food the central focus of your life
 - Eat the most calories in the morning, and decrease throughout the day
 - A big dinner after 7:00pm is linked to being overweight
- refer to the 'food rules' handout

remember...in the United States we are blessed with an overabundance of choice

you as a responsible consumer need to sift through and find quality and less quantity to maintain healthy nutrition and a healthier life!