

Fitness, Nutrition, and Weight Management

Coach Whitaker

Vocabulary

- Physical Fitness—the ability of the body to perform daily physical activity without getting overly tired.
- Health related Fitness—fitness qualities that are necessary to maintain and promote a healthy body.
- Resting heart rate—the number of times the heart beats per minute while at rest.
- Target heart rate—a heart rate range where the most cardio health gains occur.

Vocabulary

- FITT—formula made for important fitness gains—frequency, intensity, time, and type.
- Nutrition—the science or study of food and the ways in which they body uses food.
- Carbohydrates—class of energy giving nutrients that include sugars, starches, and fiber.
- Fat—class of energy giving nutrients that is the main energy storage in the body.

Vocabulary

- Protein—class of energy giving nutrients that build, repair, and regulate body structures and processes in the body.
- Vitamin—class of nutrients that are needed in small amounts to maintain health and allow growth.
- Minerals—class of nutrients that are chemical elements needed for certain body processes.
- MyPyramid—a food guidance system that encourages healthy eating and daily activity

Vocabulary

- Basal metabolic rate (BMR)—the rate at which energy is used to keep the body alive.
- Body composition—the proportion of body weight that is made up of fat tissue compared to lean tissue.

Benefits of Physical Activity

- Physical fitness is the ability of the body to carry out daily physical activities without getting out of breath, sore, or overly tired.
- Exercise is any physical activity that improves or maintains physical fitness.
- Being physically fit keeps you healthy and lowers your risk of certain diseases.
- A sedentary lifestyle increases your risk of chronic diseases.



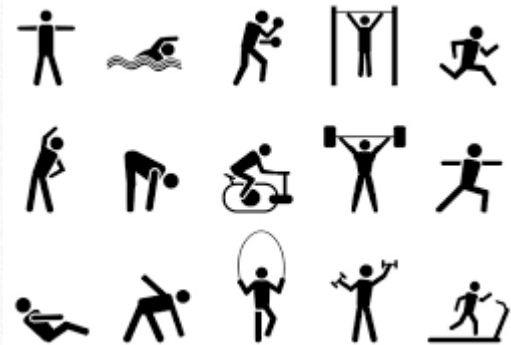
Physical Benefits of Physical Activity

- Heart and lungs get stronger
- Healthy blood cholesterol levels and blood vessels
- Stronger, more efficient muscles
- Healthy ratio of muscle mass to fat mass
- Increased metabolic rate
- More Calories burned



Mental and Social Benefits

- Mental benefits of exercise include reduced stress levels, reduced risk of depression and anxiety, and increased energy and alertness.
- Social benefits of exercise include increased self-esteem and increased opportunities to socialize with others who share your interests.



5 Components of Health Related Fitness

- Muscular strength
- Muscular endurance
- Cardiorespiratory endurance
- Flexibility
- Body Composition



Skills Developed by Fitness

- Coordination
- Balance
- Agility
- Power
- Speed
- Reaction time



Body Adaptations to Exercise

- Increased Heart Stroke Volume
 - Increase Oxygen VO₂ Max
 - Increased Capillarization
 - Lowers LDL levels
 - MITOCHONDRIA
 - Fiber Types (Slow and Fast)
-
- Committing to a life of physical activity now can delay or prevent some chronic diseases later in life, such as cardiovascular disease and osteoporosis



Activity

Developing a Fitness Program

- Before you start a fitness program, consider the following factors:

1. Do you have any special health constraints?
2. Are you healthy enough to start a program?
3. What types of activities do you enjoy?
4. How much will your planned activities cost?

Should Include—Cardio endurance, Muscular strength/endurance, and flexibility

Designing Your Fitness Plan

- Your resting heart rate (RHR) is the number of times your heart beats per minute while at rest.

How to Calculate Your Heart Rate

- 1.** Using the tips of your index and middle fingers, locate your carotid artery. Your carotid artery is located just below your jaw in the groove where your head and neck meet. Search around until you can feel a steady beat under the skin.
- 2.** Use a clock or stopwatch to count your pulse for 10 seconds. Multiply the number of beats in 10 seconds by six to get your heart rate.

Designing Your Fitness Plan

- Your maximum heart rate (MHR) is the maximum number of times your heart should beat in a minute while doing any physical activity.
- To calculate your MHR, subtract your age from 220

Designing Your Fitness Plan

- Your target heart rate zone is the range of heart rates in which you gain the most cardiorespiratory health benefits.
- To calculate your target heart rate zone, multiply your MHR by 60 percent (0.6) and 85 percent (0.85). These are the lower and upper limits of the range.

Designing Your Fitness Plan

Develop Fitness Goals and Track Your Progress:

- Your goals should be well planned and based on your abilities.
- Choose goals you really want to achieve.
- Divide your goals into short-term and long-term.
- Write down specific objectives that will help you reach each short-term goal.

Avoiding Sports Injuries

- Get conditioned.
- Warm up and cool down.
- Stretch.
- Avoid dehydration.
- Avoid overtraining.
- Avoid overuse injuries.
- Choose the correct equipment and clothing.

Activity

- Designing your fitness plan:
- In the blue book turn to page 137 and follow the directions to create your fitness plan.
- Use pages 133-137 for reference about each component of fitness and examples to use for a fitness plan.

What is Nutrition?

- Nutrition is the science or study of food and the ways the body uses food.
- Nutrients are substances in food that provide energy or help form body tissues and are necessary for life and growth.

Six Classes of Nutrients

- Carbohydrates
- Fats
- Proteins
- Vitamins
- Minerals
- Water
- A Balanced Diet To be healthy, you need the right amount of nutrients from each class.

Metabolism

- Metabolism is the sum of the chemical processes that take place in your body to keep you alive and active.
- Metabolism requires energy from carbohydrates, fats, and proteins.
- The energy in food is measured in Calories.

Energy Sources

- Carbohydrates are energy-giving nutrients that include sugars, starches, and fiber.
- Fats are the main form of energy storage in the body.
- Proteins are made of amino acids, which build and repair structures and regulate processes in the body.
- Energy Systems—Immediate, ATP-PC, Oxidative

Carbohydrates

- Sugars are the simplest form of carbohydrates.
- Starches are more complex carbohydrates that can be broken down into sugars.
- Glycogen is a form of carbohydrate your body uses for short-term energy storage.
- Fiber is a complex carbohydrate that provides little energy and cannot be digested. However, fiber is important to keep your digestive system healthy.

Fats

- Fats are the body's main form of long-term energy storage.
- Saturated Fats—eating too many saturated fats can lead to weight gain, high cholesterol levels, and an increased risk of heart disease.
- Unsaturated Fats--Unsaturated fats contain unsaturated fatty acids.
- Cholesterol is another type of lipid found in all human and animal tissues
- Too much of certain types of cholesterol in your diet can cause deposits on blood vessel walls, increasing the risk of heart attack.

Proteins

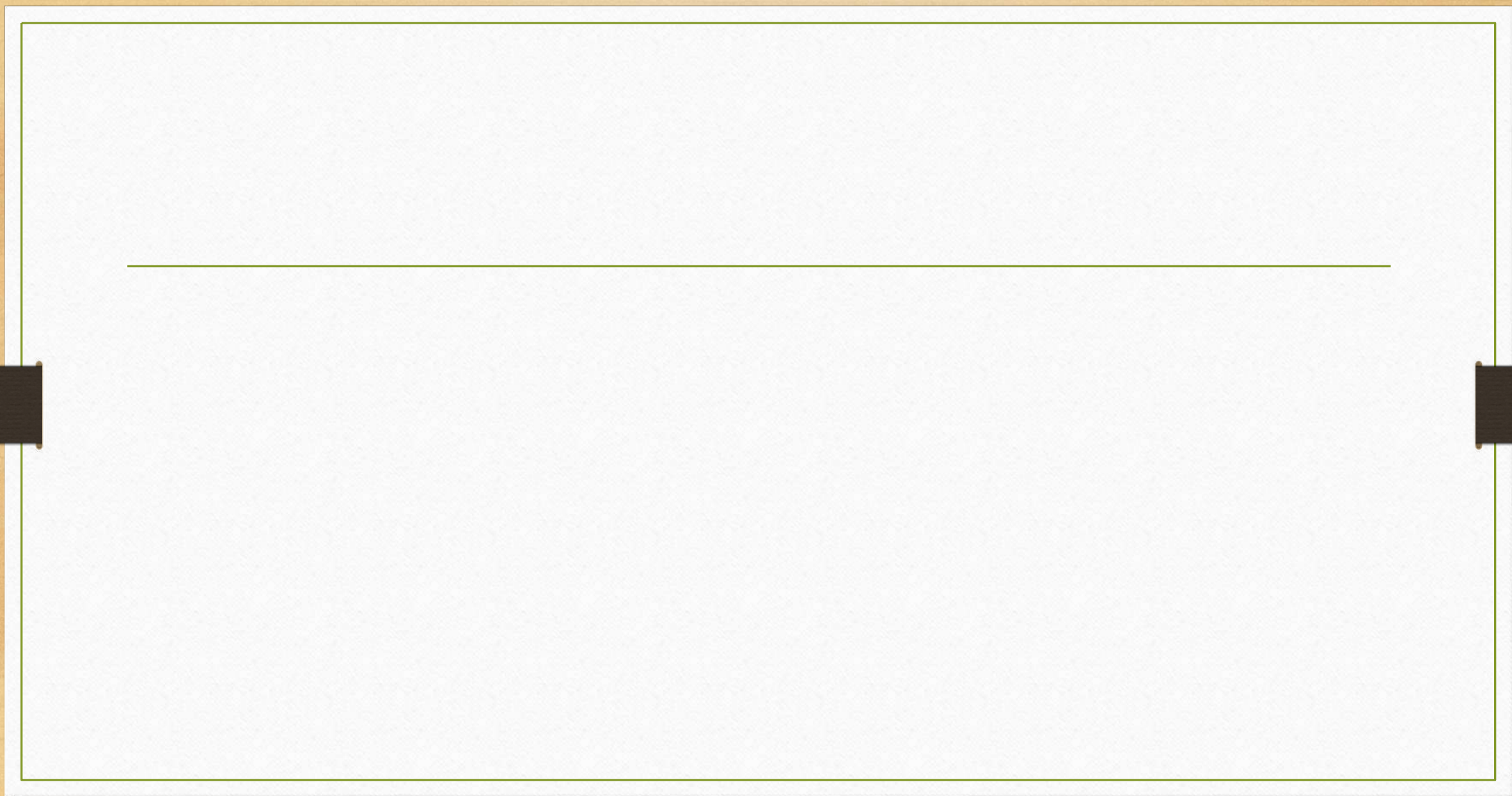
- Proteins are made of amino acids, which are used in building and repairing structures in the body.
- Proteins are also needed for hormones, enzymes, and other essential molecules.

Vitamins and Minerals

1. Vitamins are carbon-containing nutrients that are needed in small amounts to maintain health and allow growth.
2. Minerals are chemical elements that are essential in small amounts to maintain good health.
 - Nutrient deficiency is the state of not having enough of a nutrient to maintain good health.

Water

- About 60 percent of your body is water.
- Water is essential for almost every function that keeps you alive.
- The amount you need daily is affected by your diet, your activity level, and by how hot and humid the weather is.
- Mild dehydration can interfere with mental and physical performance.
- Severe dehydration can have very serious consequences, including death.



Diet

- How much of each nutrient?
- Recommended Dietary Allowances (RDAs) are the recommended nutrient intakes that will meet the needs of most healthy people.
- RDAs are guidelines, not exact requirements.

Food Labels and Facts

- **Serving Size** Nutrition labels show the size of a single serving. All other values on the label are in reference to this serving size.
- **Calories** Nutrition labels list total Calories, the Calories from fat, and the Calories from saturated fat
- **Daily Values (DVs)** are recommended daily amounts of nutrients based on a 2000-Calorie diet.
- Food labels list ingredients in order of weight.
- Food labels also typically list the amount of cholesterol, sugars, sodium, and protein per serving.

Start Here

Check Serving Size

Check Calories

Limit These Nutrients

Get Enough of These Nutrients

Nutrition Facts

Serving Size 1/2 cup (114g)
Servings Per Container 4

Amount Per Serving

Calories 90 **Calories from Fat 30**

	% Daily Value*
Total Fat 3g	5%
Saturated Fat 0g	0%
Cholesterol 0mg	0%
Sodium 300mg	13%
Total Carbohydrate 13g	4%
Dietary Fiber 3g	12%
Sugars 3g	
Protein 3g	

Vitamin A 270% • **Vitamin C** 10%
Calcium 2% • **Iron** 4%

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

	Calories	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	30g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Quick Guide to % Daily Value

5% or less is low
20% or more is high

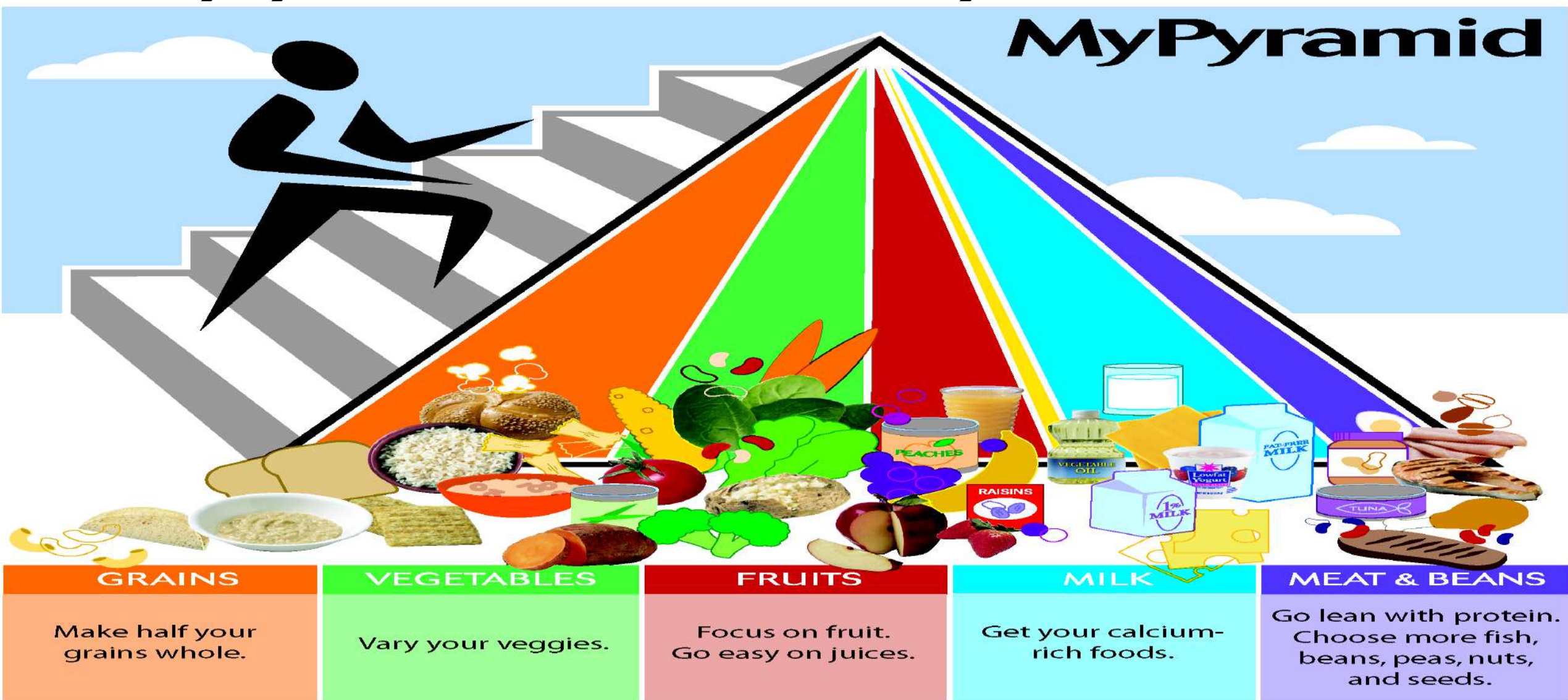
Footnotes

My Food Pyramid

- The MyPyramid food guidance system is a tool that can help you choose what to eat and how much to eat every day.
- The amount of food from each group that a person needs each day depends on the person's age, sex, and level of physical activity.

The MyPyramid Food Guidance System

MyPyramid



Find your balance between food and physical activity. Children and teens should be active for 60 minutes on most days.

Know your limits on fats, sugars, and salt. Get most of your fat from vegetable oils, nuts, and fish. Choose foods and drinks low in added sugar.

Dietary Guidelines for Americans

- The Dietary Guidelines for Americans are a set of recommendations designed to improve the diets and health of Americans.
- These guidelines focus on helping Americans get more nutrients in few Calories, improve the balance between the amount of food that they eat and the amount of exercise that they get, and limit dietary items that may contribute to disease.

Dietary Guidelines for Americans

1. More Nutrients, Fewer Calories

- The guidelines encourage the consumption of foods that are rich in nutrients but low in Calories.
- Such foods include fruits, vegetables, whole grains, and low-fat milk products

Dietary Guidelines for Americans

2. Balancing Food and Physical Activity

Regular exercise balances the energy that you take in from food with the energy that your body uses each day.

The guidelines recommend that teens get 60 minutes of exercise every day.

Dietary Guidelines for Americans

3. Limiting Certain Types of Nutrients

The guidelines recommend low intakes of saturated fat, trans fat, cholesterol, and added sugars.

Salt should be limited, too.

Activity

- Dinner Plan Analysis
- <http://www.nutrition.gov/whats-food>
- Food Analysis

Weight Management

- Why Do You Eat?
- Hunger is the body's physical response to the need for food.
- Appetite is a desire, rather than a need, to eat certain types of food.

Amount and Type of Food Factors

The smell and taste of food

Mood

Family, ethnic, and religious traditions

Social occasions

Health concerns

Advertising

Cost and availability

Food Provides Energy

Your basal metabolic rate (BMR) is the rate at which your body uses energy to stay alive when you are in a rested, fasting state.

BMR varies from person to person, depending on age, weight, sex, and how active the person is.

Balancing Energy Intake with Energy Used

- You are in energy balance when the food energy you take in equals the energy you use.
- Extra food energy increases the body's fat and causes weight gain.
- Some body fat is essential for health.
- Overweight people are too heavy for their height. The extra weight is usually due to excess body fat.

Balancing Energy Intake with Energy Used

- Being overweight increases the risk of many long-term health problems, including:
 - Type 2 diabetes, heart disease, and high blood pressure
 - Prostate, colon, and breast cancer
 - Sleeping problems such as sleep apnea

Overweight and Obesity

- Obesity is a condition in which a person has a significant amount of excess body fat.
- More Americans are obese now than ever before.
- Americans today exercise less and eat more foods high in sugar and fat than in the past.
- Exercise and a healthy diet can help most people stay in a healthy weight range.

Activity

Why Do You Weigh What You Weigh?

- Heredity is the passing down of traits from parent to child through DNA.
- Whether you gain or lose weight easily is largely due to heredity.
- However, your choices about what you eat, how much you eat, and how much you exercise also affect your energy balance and body weight.

A Healthy Weight Management Plan

- Weight management is a program of sensible eating and exercise habits that will help keep weight at a healthy level.
- The keys to healthy weight management are to eat better, eat less, and exercise more.
- The goal is to lose fat, not muscle.

A Healthy Weight Management Plan

- If you are underweight, consult a doctor to make sure your low weight is not due to an illness.
- You can gain weight by gradually increasing food intake and by exercising to increase muscle mass.

Dangerous Weight Loss Diets

- Many weight-loss products and programs fail to provide healthy long-term weight management.
- Fad diets
- Diet pills
- Surgery

- The only safe and reliable way to manage your weight is to balance food intake with exercise.

Eating Disorders

- Eating disorders are conditions that involve an unhealthy degree of concern about body weight and shape and that may lead to efforts to control weight by unhealthy means.
- Body image is how you see and feel about your appearance and your body.
- Culture and society affect what we think of as a perfect body.

Common Eating Disorders

What is it?

Anorexia nervosa is an obsession with being thin that leads to extreme weight loss. Some people with anorexia binge and then purge as a means of weight control. Sufferers often have very low self-esteem and feel controlled by others. The average teen consumes about 2,500 Calories per day. But someone with anorexia may consume only a few hundred Calories.

Signs and symptoms

- ▶ intense fear of weight gain
- ▶ overexercising
- ▶ preferring to eat alone
- ▶ preoccupation with Calories
- ▶ extreme weight loss
- ▶ loss of menstrual periods for at least 3 months
- ▶ hair loss on head
- ▶ depression and anxiety
- ▶ weakness and exhaustion

Treatment

- ▶ medical, psychological, and nutritional therapy to help the person regain health and develop healthy eating behaviors
- ▶ family counseling

Bulimia nervosa is a disorder that involves frequent episodes of binge eating that are almost always followed by behaviors such as vomiting, using laxatives, fasting or overexercising. During a typical binge, about 3,400 Calories are consumed in less than two hours.

- ▶ preoccupation with body weight
- ▶ bingeing and purging
- ▶ bloodshot eyes and sore throat
- ▶ dental problems
- ▶ irregular menstrual periods
- ▶ depression and mood swings
- ▶ feeling out of control
- ▶ at least two bulimic episodes per week for at least 3 months

- ▶ therapy to separate eating from emotions and to promote eating in response to hunger and satiety
- ▶ nutritional counseling to review nutrient needs and ways to meet them

Common Eating Disorders

What is it?

Binge eating disorder is a disorder that involves frequent binge eating but no purging. It is frequently undiagnosed. About one-quarter to one-third of people who go to weight-loss clinics may have binge eating disorder.

Signs and symptoms

- ▶ above-normal body weight
- ▶ bingeing episodes accompanied by feelings of guilt, shame, and loss of control

Treatment

- ▶ psychological and nutritional counseling

Eating disorders not otherwise specified are disordered eating behaviors that are not severe enough to be classified as a specific eating disorder. They are often referred to as “disordered eating behaviors.” Many teens are believed to have disordered eating behaviors that could lead to serious health problems.

- ▶ weight loss (less than anorexia)
- ▶ bingeing and purging less frequently than in bulimia
- ▶ purging after eating small amounts of food
- ▶ deliberate dehydration for weight loss
- ▶ hiding food
- ▶ overexercising
- ▶ constant dissatisfaction with physical appearance

- ▶ psychological and nutritional counseling