

Physical Activity, Nutrition & Injury Prevention

Unit 1

Lessons:

1. 4.1 – Physical Activity and Skills-Related Fitness
2. 4.2 – Physical Activity and Total Health
3. 4.3 – Avoiding Injuries
4. 5.1 – Food in Your Life
5. 5.2 – Carbohydrates, Proteins, and Fats
6. 5.3 – Vitamins, Minerals, and water
7. Unit 1 Test

Notes 4.1

Physical Activity & Skill Related Fitness

Physical activity includes any form of movement – whether purposeful, as in exercise and sports or recreation, or incidental, as when carrying out domestic chores.

Lifestyle Activities

Lifestyle activities are forms of physical activity that are a normal part of your daily routine or recreational and that promote good health throughout a lifetime. Examples include: gardening, walking, or raking leaves.

Sports Activities

Sports Activities usually involve competition and are guided by a set of rules. When you think of sports, you may think of team sports such as football, basketball, and hockey, but other possibilities exist.

- Individual sports: skill related sports like swimming, cycling or golf
- Partner sports: activities carried out with a partner, such as playing tennis or racquetball
- Nature Sports: These are activities in which there is some interaction with one of the elements of nature, such as surfing, rock climbing, and sailing

Skills-Related Fitness

Regular physical activity develops skills-related fitness. There are six basic measures of skills-related fitness.

- Agility: Ability to control the body's movements and to change the body's position quickly. Measured with side shuttle.
- Balance: Ability to remain upright either while standing still or moving
- Coordination: Ability to use two or more body parts together well, or to use the senses along with the body parts. Measured with juggling.
- Speed: Ability to move a distance or complete a body movement in a short period of time
- Reaction Time: The rate of movement once a person realizes the need to move
- Power: Ability to use force with great speed

LESSON

9

FOR USE WITH CHAPTER 4, LESSON 1

I. Directions

Match each definition in the left column with the correct term in the right column. Write the letter of the term in the space provided.

- | | |
|--|------------------|
| _____ 1. the ability to use the senses together with parts of the body | a. balance |
| _____ 2. ability to stay upright when standing or moving | b. power |
| _____ 3. the ability to move a distance in a short period of time | c. reaction time |
| _____ 4. rate of movement once you realize the need to move | d. coordination |
| _____ 5. the ability to use force with great speed | e. speed |

II. Directions

Read each statement carefully. If the statement is true, place a plus (+) in the space provided. If the statement is false, cross out the italicized word(s) and write the correct word(s) in the space provided.

- _____ 6. Raking leaves is an example of a(n) *sports activity*.
- _____ 7. The side shuttle is a good way to measure *coordination*.
- _____ 8. A person who jumps the farthest in the standing long jump has the most physical *power*.
- _____ 9. *Lifestyle activities* are sports activities in which there is some interaction with one of the forces of nature.
- _____ 10. Regular *physical activity* will help develop skills-related fitness.

SCORE (number correct x 10 points):

Notes 4.2

Physical Activity & Total Health

Sports and Nutrition

What you eat and drink is an important part of a **training program**. This is a program of formalized physical preparation for participating in a sport. Food provides the energy necessary for top performance.

Hydration is the addition of body fluids, which you get through drinking liquids, especially water. Drinking water before physical activity is needed for proper hydration.

During physical activity, the body loses water primarily by sweating and intense breathing. This process is called dehydration. One sign of dehydration is fatigue.

Avoiding Harmful Substances

Anabolic steroids are chemicals similar to the male hormone testosterone. Violent tendencies and unusual weight gain in an athlete may be a sign of anabolic steroid use.

Adequate Rest

Another component of training is sleep. Reading or taking a hot bath is a good way of relaxing before bed. Inadequate rest can result in slowed reaction time, depression, and the inability to concentrate.

Sports and the Mind

Coaches often give “pep talks” to help promote a positive mind-set.

**LESSON
QUIZ**

10

FOR USE WITH CHAPTER 4, LESSON 2

I. Directions In the space provided, write the letter of the choice that best completes the statement or answers the question.

- _____ 1. Sweating and intense breathing during exercise can lead to
 - a. hydration
 - b. toxicity
 - c. cardiorespiratory endurance
 - d. dehydration

- _____ 2. Illegal substances that some athletes take to increase muscle mass are
 - a. triglycerides
 - b. antibiotics
 - c. anabolic steroids
 - d. prescription antihistamines

- _____ 3. One of the first signs of dehydration is
 - a. fatigue
 - b. thirst
 - c. collapsing
 - d. vomiting

- _____ 4. A good way to relax before bed is to
 - a. eat something
 - b. take a hot bath
 - c. exercise
 - d. drink coffee

- _____ 5. Anabolic steroids are chemicals similar to the male hormone
 - a. testosterone
 - b. triglycerides
 - c. chromium
 - d. estrogen

II. Directions In the space provided, write the word(s) from the list that best completes the statement.

- 6. Coaches often give "pep talks" to help promote a positive _____ hydration
- _____ anabolic steroid
- 7. A _____ provides formalized physical mind-set
- preparation for participation in sports. _____ inadequate rest
- 8. Violent tendencies and unusual weight gain in an athlete may training program
- be a sign of _____ use.
- 9. Drinking water before physical activity is needed for proper _____
- 10. _____ can result in slowed reaction time, depression, and the inability to concentrate.

SCORE (number correct x 10 points):

Notes 4.3

Avoiding Injuries

Minor Exercise-Related Injuries

The most common injuries that occur from exercise are to the muscular and skeletal system. These are injuries, which usually result from too much stress being placed on a joint or muscle, include the following:

- **Muscle cramp:** A spasm or sudden tightening of a muscle. Massage and heat can be used to relieve.
- **Strain:** A condition in which muscles have been overworked. Avoid going “all out” the first day of exercise.
- **Sprain:** An injury to tissue surrounding a joint. Warming up properly and using proper equipment can help you avoid sprains.

Treatment for Minor Injuries

Minor strains and sprains can be treated by using the **R.I.C.E.** procedure.

- **Rest:** Avoid using affected muscle or joint. This may mean staying in bed for a day or two.
- **Ice:** It helps reduce pain and swelling. Apply to affected area for 20 minutes, off 20 minutes, then on 20 minutes.
- **Compression:** Light pressure through the use of an elastic bandage can help reduce swelling.
- **Elevation:** Raising the affected limb above heart level helps reduce pain and swelling.

Major Exercise-Related Injuries

When injuries are severe, medical treatment is required.

Fractures are any type of break in the bone. **Dislocations** result when a bone slips from its normal position at a joint. **Tendinitis** is a condition in which the tendons, fiber that connect muscles to bones, are stretched or torn from overuse. Blows to the head can cause swelling of the brain. You may suffer a concussion from playing a particular sport. It can lead to serious neurological problems.

Weather-Related Risks

Heat Cramps – muscle spasms due to large amounts of salt and water loss from sweating.

Heat Exhaustion – overheating, cold clammy skin and shortness of breath.

Heat stroke – Body fails in cool and shuts down, life threatening.

Protective Equipment

Protective equipment includes mouth guards, elbow pads, and helmets.

**LESSON
QUIZ**

11

FOR USE WITH CHAPTER 4, LESSON 7

I. Directions In the space provided, write the letter of the choice that best completes the statement or answers the question.

- _____ 1. The R.I.C.E. procedure is a method to treat
 - a. a concussion
 - b. fractures
 - c. stomach cramps
 - d. minor sprains and strains
- _____ 2. A spasm or a sudden tightening of a muscle is
 - a. a fracture
 - b. a muscle cramp
 - c. muscle sprain
 - d. tendonitis
- _____ 3. Bands of tissue that connect muscles to bones are called
 - a. tendons
 - b. ligaments
 - c. cartilage
 - d. joints
- _____ 4. Massage and heat can be used to relieve
 - a. major strains
 - b. tendonitis
 - c. muscle cramps
 - d. fractures
- _____ 5. Shortness of breath and clammy skin are signs of
 - a. concussion
 - b. heat exhaustion
 - c. heatstroke
 - d. hypothermia

II. Directions Read each statement carefully. If the statement is true, place a plus (+) in the space provided. If the statement is false, cross out the italicized word(s) and write the correct word(s) in the space provided.

- _____ 6. *Heat cramps* are caused by the loss of salt and water through perspiration.
- _____ 7. *Windburn* is a condition when body tissue becomes frozen.
- _____ 8. A *dislocation* can lead to serious neurological problems.
- _____ 9. *Hypothermia* can occur if the body becomes cold and cannot warm itself.
- _____ 10. *Protective equipment* includes mouth guards, elbow pads, and helmets.

SCORE (number correct x 10 points):

Unit 5.1

Nutrition is the process by which the body takes in and uses food.

Nutrients: “The substance in food that your body needs to function properly to grow, to repair itself, and to supply you with energy.”

Physical need vs. Psychological desire

Physical need = Hunger: nerves stimulated when stomach is empty, “natural drive that protects you from starvation.”

Psychological desire = Appetite “is desire, rather than a need, to eat.” Example: Eating dessert after a big meal.

Culture – Special occasion food choices can reflect your culture, ethnic background and perhaps your religious beliefs.

During periods of active growth such as adolescence, the body uses more energy.

Advertising – People tend to believe what they watch & read. Advertisements may be misleading.

Making healthy food choices can reduce risk factors such as obesity. Eating habits being influenced by emotions include: stress and boredom. Choosing foods that are low in fat, cholesterol, and sodium will help reduce the risk for chronic diseases.

**LESSON
QUIZ****12**

FOR USE WITH CHAPTER 5, LESSON 1

I. Directions

In the space provided, write the word(s) from the list that best completes the statement.

1. If you eat dessert after a big meal, you are responding to _____.

nutrition

2. When your stomach is empty, nerves that signal _____ are stimulated.

obesity

3. Foods you associate with holidays may be a reflection of your _____.

hunger

appetite

culture

4. _____ is the process by which the body takes in and uses food.

5. Making healthy food choices can reduce risk factors such as _____.

II. Directions

In the space provided, write the letter of the choice that best completes the statement or answers the question.

- _____ 6. Substances from food that your body needs to function properly are called

a. environmental factors

c. food preferences

b. food choices

d. nutrients

- _____ 7. Food advertisements

a. may be misleading

c. are never trustworthy

b. are always reliable

d. never shape food decisions

- _____ 8. Eating because of stress or boredom is an example of eating habits being influenced by

a. hunger

c. cost and convenience

b. emotions

d. advertising

- _____ 9. During periods of active growth such as adolescence, the body

a. needs fewer nutrients

c. uses more energy

b. needs different nutrients

d. uses less energy

- _____ 10. Choosing foods that are low in fat, cholesterol, and sodium

a. will help reduce the risk for chronic diseases

c. results in hunger

b. is important only for adults

d. will lower energy level

SCORE (number correct x 10 points):

Unit 5.2

Nutrients: Carbohydrates, Proteins, and Fats

Carbohydrates: the starches and sugars found in food.

Simple Carbohydrates = sugars in fruit & vegetables

Complex Carbohydrates = starches in rice & grains

The body converts carbohydrates into glucose, the body's main fuel. Unused glucose is stored as glycogen. Too much glycogen = body fat.

Proteins: are nutrients made from amino acids that help build and maintain body tissues.

Complete proteins = foods containing all essential amino acids: fish, meats & dairy products. All essential amino acids must come from food.

Incomplete proteins = lack some of the essential amino acids: nuts, whole grains & seeds

Fats: most concentrated form of energy available for your body. Linoleic acid is an essential fatty acid.

Saturated fat = solids – increases heart disease

Unsaturated fat = liquids & oils – decrease heart disease. Fatty acids are missing hydrogen atoms.

Fiber is important because it helps move waste.

Enzymes are substances that control the rate of biochemical reactions in the body.

Cholesterol: fatlike substance produced in liver. Cholesterol comes from saturated fats found in animal products.

LESSON QUIZ

13

FOR USE WITH CHAPTER 5, LESSON 2

I. Directions In the space provided, write the letter of the choice that best completes the statement or answers the question.

- _____ 1. The starches and sugars found in foods are
- | | |
|-------------|------------------|
| a. fats | c. cholesterol |
| b. proteins | d. carbohydrates |
- _____ 2. Fiber is important because it
- | | |
|---------------------------|--------------------------------|
| a. can be used for energy | c. is easily digested |
| b. helps move waste | d. is a good source of protein |
- _____ 3. Nutrients made from amino acids are called
- | | |
|------------------|-------------------|
| a. carbohydrates | c. proteins |
| b. lipids | d. micronutrients |
- _____ 4. Fatty acids that are missing hydrogen atoms are described as
- | | |
|-----------------|--------------|
| a. hydrogenated | c. saturated |
| b. unsaturated | d. reduced |
- _____ 5. Substances that control the rate of biochemical reactions in the body are
- | | |
|-------------|----------------|
| a. enzymes | c. fatty acids |
| b. hormones | d. cholesterol |

II. Directions Read each statement carefully. If the statement is true, place a plus (+) in the space provided. If the statement is false, cross out the italicized word(s) and write the correct word(s) in the space provided.

- _____ 6. Glucose that is not used right away is stored as *waste* in the liver and muscles.
- _____ 7. Cholesterol is found in *vegetables*.
- _____ 8. All of the *essential* amino acids must come from food.
- _____ 9. Linoleic acid is an essential *fatty acid*.
- _____ 10. *Complete* proteins lack some of the essential amino acids.

SCORE (number correct x 10 points):

5.3

Nutrients: Vitamins, Minerals, and Water

Vitamins

Micronutrients: Body needs in small amounts.

Water-Soluble Vitamins:

- Vitamin C – protects against infections
- Must be replenished regularly

Fat-Soluble Vitamins:

-Vitamins A, D, E & K, stored in bodies fat tissue, liver & kidneys. Large doses can be toxic. Vitamin A is manufactured from **beta-carotene**.

Minerals

Inorganic substances that the body cannot manufacture but that act as catalysts, regulating many vital body processes. Body needs in small amounts.

Calcium – Sodium - Potassium – Iron

Electrolytes include: Sodium, chloride, and potassium

Iron is essential for hemoglobin in the blood.

Example: Calcium = bone growth and strength. Lack of increases susceptibility to fractures.

Water

- Vital to every body function

Water makes up the greatest percentage of your body.

- Carries & absorbs nutrients
- Lubricates joints
- Helps you swallow
- Eliminates waste
- Cools you down

About 75% of fruits, vegetables and milk products are water. Our bodies use about 10 cups of water a day.

**LESSON
QUIZ**
14

 FOR USE WITH CHAPTER 5, LESSON 3

I. Directions

Match each definition in the left column with the correct term in the right column. Write the letter of the term in the space provided.

- | | |
|--|--------------------------------|
| _____ 1. absorbed and transported by fat | a. beta-carotene |
| _____ 2. essential for hemoglobin in the blood | b. electrolytes |
| _____ 3. substance from which the body can manufacture vitamin A | c. minerals |
| _____ 4. sodium, chloride, and potassium | d. fat-soluble vitamins |
| _____ 5. inorganic substances that act as catalysts | e. iron |

II. Directions

In the space provided, write the letter of the choice that best completes the statement or answers the question.

- | | | |
|---|--|--|
| _____ 6. Vitamins and minerals are known as micronutrients because | a. they supply minimal calories | c. the body needs them in small amounts |
| | b. they supply minimal energy | d. they are small molecules |
| _____ 7. Water-soluble vitamins | a. are stored in fat | c. can build up to toxic levels |
| | b. must be replenished regularly | d. are made by the body |
| _____ 8. The nutrient that makes up the greatest percentage of your body is | a. water | c. muscle |
| | b. bone | d. skin and connective tissue |
| _____ 9. If you don't get enough calcium you may | a. feel tired | c. be more susceptible to fractures |
| | b. become dehydrated | d. lose hair |
| _____ 10. Taking large doses of fat-soluble vitamins is unwise because | a. excess amounts can reach toxic levels | c. they will be lost through urine |
| | b. they become electrically charged in solution | d. the body will not absorb them |

SCORE (number correct x 10 points):

HEALTH UNIT 1 ANSWER SHEET

Name: _____

Period: _____

Please follow the directions on each quiz.

Lesson Quiz 9

1. _____
2. _____
3. _____
4. _____
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9. _____
10. _____

Lesson Quiz 10

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Lesson Quiz 11

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Lesson Quiz 12

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Lesson Quiz 13

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Lesson Quiz 14

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