

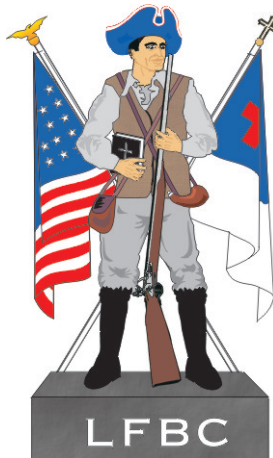
Sample Studyguide Pages

SSGX155 Studyguide
Is a Part of S155 Complete Subject Set

HEALTH

First Semester — S155

Name _____



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Week 3

How Your Body Works: The Skeletal and External Systems

“A sound heart is the life of the flesh: but envy the rottenness of the bones” (Proverbs 14:30).

“Pleasant words are as an honeycomb, sweet to the soul, and health to the bones” (Proverbs 16:24).

“A virtuous woman is a crown to her husband: but she that maketh ashamed is as rottenness in his bones” (Proverbs 12:4).

“The light of the eyes rejoiceth the heart: and a good report maketh the bones fat” (Proverbs 15:30).

Lesson 1

Write the definitions from the glossary for the following vocabulary terms.

1. axial _____

2. vertebrae _____

3. appendicular _____

4. ligaments _____

5. cartilage _____

6. tendons _____

7. epidermis _____

8. dermis _____

9. follicle _____

10. acne _____

11. bacteria _____

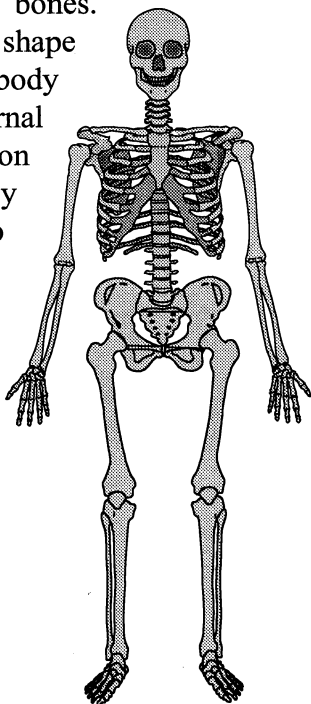
12. melanin _____

Read the following text for good understanding.

THE SKELETON

The skeleton of the average adult consists of 206 distinct bones.

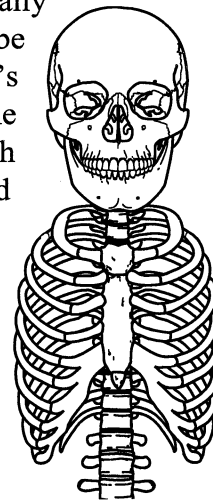
These bones give shape and support to the body and protect internal organs. Body motion is made possible by muscles attached to the skeleton. The bones also store calcium and help maintain the correct level of this chemical for the body. The bone marrow also has the important task of making blood cells.



The Axial Skeleton

The **axial** skeleton refers to the bones of the head and trunk (80 bones). This includes the skull, the spine, the ribs, and the breastbone. The spine consists of 26 separate bones. The 24 **vertebrae** have holes through them which line up vertically forming a hollow tube (again see God's miraculous design). The spinal cord runs through this tube and is protected by the vertebrae.

The seven top spinal bones are the neck bones. They support the skull. The skull surrounds and protects the brain. It also provides protection for the eyes, the ears, and the nasal passages. Of



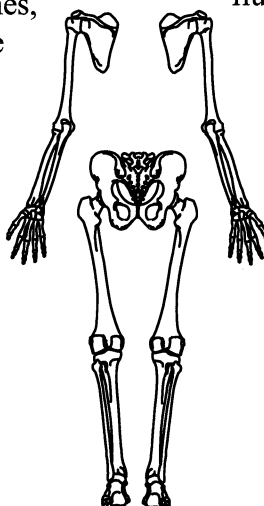
Axial Skeleton

the skull's 28 bones (including the cranium, facial bones, etc.) only one — the lower jaw bone — is movable.

The chest is protected by 12 pairs of ribs. Each pair is attached to a vertebrae. These ribs form a cage which protects the body's most vital organs, the lungs and the heart.

Appendicular Skeleton

This **appendicular** skeletal system includes the shoulder bones, arm bones, hip bones, and leg bones. This bone system is one of the many differences between man and all the animals. The human skeletal system allows man to walk uprightly, grasp things (using his fingers and thumb), and carry out a wide range of motions unknown to most animals. The human skeletal system, the ability to reason, and man's immortal soul demonstrate that he is not just another animal, but a unique being created in the image of God.



Appendicular Skeleton

Joints

Any place where two or more bones come together is referred to as a joint. The type of joint determines what kind of movement can take place. A hinge joint (the elbow for example) allows bending in only one direction. Ball and socket joints (for example, the hip) allow both bending and rotary movements. Many joints do not allow any movement.

Bones are bound together at joints by tough fibers called **ligaments**. These ligaments limit movements and help to prevent joints from being dislocated. Where the ends of bones meet at joints, they are protected by rubbery tissue known as **cartilage**.

Muscles, which provide the strength needed to move bones, are attached to the bones by **tendons**. Normally a muscle is

attached by tendons to one bone at one end and to another bone at the other end.

SKIN

The outside of the human body is covered by an organ referred to as skin. This tissue shields the tissues and organs underneath from injury, protects from germs, insulates against heat and cold, and helps to eliminate body fluids through perspiration. Skin also helps to produce the body's supply of vitamin D. Its sense receptors enable the body to feel pain, cold, heat, touch, and pressure.

The skin consists of two main parts: the outer layer (**epidermis**) and the inner layer (**dermis**).

The outer layer is made up of several layers of cells. The cells from the outer layer are constantly being shed and replaced by cells from the lower layer. The cells of the top layer of the epidermis are non-living and need no blood supply. A cut in the skin can open the way for germs to infect the inner areas of the body. The inner layer is made up of connective tissues including blood vessels and nerves. The various skin sensations are made possible by these nerves.

Sweat Glands

The sweat glands are located deep in the inner layer. They collect body fluids containing salt, water, and waste products from the blood. It is carried away in little canals and exit through pores on the skin's surface.

Oil Glands

The oil (sebaceous) glands are also in the inner layer. They secrete the oil which keeps the skin surface well lubricated. Many of the oil glands are connected with hair **follicles**.

Care of the Skin

Proper diet, rest, and exercise are all important to the care of the skin. Cleanliness is also necessary (see Week 8). Facial skin is very delicate and is also normally exposed to wind, sun, and cold. The face should be washed at least twice a day. Men are usually satisfied to wash with water and soap. The skin of females is often more delicate and they may prefer to use special facial soaps or cleansing creams.

The amount of oil and perspiration secreted by the glands varies greatly from person to person. It can also be influenced by general health and personal skin care. Skin tends to become drier in middle- and old-age thus encouraging wrinkles.

Dry skin should not be washed too often with soap and water. A cleansing cream may be needed. Sometimes skin is unusually dried by the weather. Chapped skin should be treated with specially designed products.

Oily skin should be washed more often but not with oily creams or lotions. It is important not to allow skin pores to become clogged with oil and dirt.

Acne

Acne occurs in about 90% of teenagers. About 5% of teenagers have acne with severe enough inflammation to create permanent scarring.

Acne is related to the hormones of puberty (see Week 6). These hormones stimulate the oil glands causing them to produce a fatty substance called sebum which interacts with certain **bacteria** to cause pimples. Acne tends to appear in areas where there are many oil glands like the face, back, and chest.

Most scientists discount the other suggested causes of acne (chocolate, pizza, french fries, sexual activity, etc.) as myths. While skin

cleanliness is important, excessive, harsh scrubbing of the skin can aggravate the glands and actually make acne worse.

Mild acne can be managed by cleansing twice a day with a mild soap followed by over-the-counter medications applied to pimples daily. No medication works instantly or completely. A certain amount of acne may have to be endured.

Sunburn

A very common teen problem is sunburn. Sunburn can dry the skin to the point that blistering and peeling takes place and painful inflammation of the skin tissues can cause extreme discomfort.

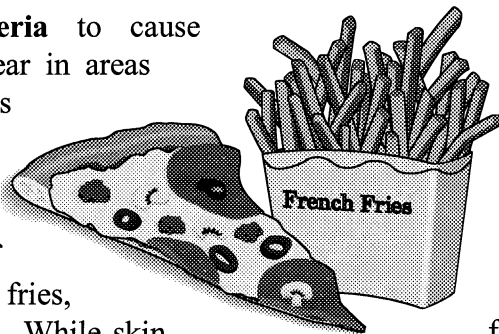
Sunscreen lotion decreases the chance of skin burning. Gradual exposure to the sun in small doses over a period of several days is much less likely to do damage than prolonged exposure at once. Lotions should be reapplied frequently during exposure with water.

Hair

Hair is a tissue that develops from the skin. The average person may have as many as 125,000 hairs on their scalp. Hair texture differs from one part of the body to another. It also differs between individuals. The color of the hair depends on a pigment called **melanin**. The less melanin the lighter the hair.

Hair develops out of a pocket in the skin called a follicle. The part of the hair beneath the skin is called the root; above the skin it is called the shaft. The follicles are connected to the oil glands which supply oil to the scalp and to the hair.

A hair grows from the roots. As the hair grows more and more it is pushed above the skin making the shaft longer. Sometimes individual follicles go through



Sample Studyguide Pages

dormant stages.

When the melanin in the hair is depleted, the hair turns gray. Baldness occurs when the follicles in a certain area no longer develop hair. Baldness is a very common occurrence among men; in fact, it is often called "male pattern baldness." The rate and amount of baldness differs greatly from person to person.

Another type of baldness is called symptomatic baldness or temporary hair loss. It should be noticed that preparations applied externally to the hair cannot "feed" the hair or change the nature of follicle development.

The Scriptures make it clear that the difference in development in men and women's hair is designed by God.

Lesson 2

Match the following.

- | | |
|----------------------------------|---|
| ___ 1. axial skeleton | a. 26 separate bones |
| ___ 2. spine | b. carry salt, water, and waste out of the body |
| ___ 3. vertebrae | c. chocolate, pizza, french fries, etc. |
| ___ 4. joint | d. bones of head and trunk |
| ___ 5. sweat glands | e. very common among men |
| ___ 6. acne | f. five percent of teenagers |
| ___ 7. severe acne with scarring | g. in a column of 24 |
| ___ 8. mythical acne causes | h. distinctions in men's and women's hair |
| ___ 9. follicle | i. 90% of teenagers |
| ___ 10. baldness | j. pocket out of which grows a hair |
| ___ 11. I Corinthians 11 | k. where two or more bones come together |

Fill in the blanks.

1. Body motion is made possible by _____ attached to the _____.
2. The seven top spinal bones are the _____ bones which support the _____.
3. The ribs form a _____ which protects the most vital organs, the _____ and the _____.

Sample Studyguide Pages

Week 3

How Your Body Works: The Skeletal and External Systems

4. The appendicular skeleton includes the _____, _____, _____, and _____ bones.
5. _____ are attached to the bones by _____.
6. A cut in the skin can open the way for _____ to _____ the inner areas of the body.
7. It is important not to let the skin pores become clogged with _____ and _____.
8. Acne is related to the hormones of _____.
9. The average person may have as many as _____ hairs on his/her scalp.
10. The difference in development of men's and women's _____ is described in the _____ as designed by God.

Lesson 3

Answer the following questions.

1. The skeleton of the average adult consists of how many bones? _____
2. What happens in the bone marrow? _____
3. What does the skull do? _____
4. What one bone in the skull is movable? _____
5. What are ligaments? _____

6. What are the two main parts of the skin? _____

7. What is another term for sebaceous glands? _____
8. Where is it most likely for acne to appear? _____

Sample Studyguide Pages

9. What affects the color of the hair? _____

10. What causes hair to turn gray? _____

Complete the following lists.

1. List three things done by the bones.

- a. _____
- b. _____
- c. _____

2. List four of the bones in the axial skeleton.

- a. _____
- b. _____
- c. _____
- d. _____

3. List three types of joints. Then, define each one and give an example.

- a. _____

- b. _____

- c. _____

Week 3

Lesson 1

1. axial bones of the head and the upper body
2. vertebrae of the backbone or spinal column
3. appendicular the skeletal system that runs the length of the body
4. ligaments tough tissue binding together bones
5. cartilage tough tissue protecting joints
6. tendons tissue which attaches muscles to bone
7. epidermis outer layer of skin
8. dermis inner layer of skin
9. follicle pocket in the skin that hair grows out of
10. acne pimples on the skin caused by the clogging or inflammation of the oil glands
11. bacteria one-celled microorganism
12. melanin color giving pigment in skin, hair, and tissues

Lesson 2

1. d
2. a
3. g
4. k
5. b
6. i
7. f
8. c
9. j
10. e
11. h

Fill in the blanks.

1. muscles, skeleton
2. neck, skull
3. cage, lungs, heart
4. shoulder bones, arm bones, hip bones, leg bones
5. muscles, tendons
6. germs, infect
7. oil, dirt
8. puberty
9. 125,000
10. hair, Scriptures

Sample Studyguide Answers

Week 3

Lesson 3

1. 206
2. Blood cells are made.
3. surrounds and protects the brain
4. the lower jaw bone
5. fibers which bind bones together at joints to prevent them from being dislocated
6. outer layer and inner layer (epidermis and dermis)
7. oil glands
8. where there are many oil glands: face, back, and chest
9. the amount of melanin (pigment) in the hair
10. The melanin is depleted.

Listing

1.
 - a. give shape and support to the body
 - b. protect internal organs
 - c. store calcium
2.
 - a. skull
 - b. spine
 - c. ribs
 - d. breastbone
3.
 - a. hinge joint; allows bending in only one direction; elbow
 - b. ball and socket joints; allow both bending and rotary movements; hip
 - c. joints which allow no movement (no example given)
4.
 - a. shields the tissues and organs underneath from injury
 - b. protects from germs
 - c. insulates against heat and cold
 - d. helps to eliminate body fluids from perspiration
 - e. produces the body's supply of Vitamin D
 - f. enables the body to feel pain, cold, heat, touch, and pressure
5.
 - a. proper diet
 - b. rest
 - c. exercise
 - d. cleanliness

Lesson 4

Teacher/Parent Evaluation; Essay should include some of the following:

The spinal column is a wonderfully complex design which demonstrates God's creation. The student's essay should reflect an understanding of the design and function of the spine including the spinal cord, vertebrae, lower back, and neck. The strength and fragility of the spine might also be covered.

Teacher/Parent Evaluation; Essay should include some of the following:

The student should briefly explain that man was created in the image of God; has the ability to logic and reason; has a spirit able to communicate with his Creator; etc. More physical characteristics may be included, if desired such as the ability to walk uprightly and grasp things, as well as numerous other motions unknown to animals.

Teacher/Parent Evaluation; Essay should include some of the following:

I Corinthians 11 is very explicit in regard to the differences between the length of the hair on men and women. The hair of a woman is to be a covering. When it is long, it covers her neck, her ears, and could cover her eyes. When it is short it cannot. Man's hair is not to be a covering. It is too long if it can be used for a covering of the neck, eyes, or ears. [PLEASE NOTE: the essay can be a valuable teaching time for giving the Biblical basis for separation standards. This opportunity should be maximized, and the student should be required to demonstrate that he/she has been made responsible for this Biblical truth since he/she has learned it directly from the Scriptures.]

Proverbs 16:24 "Pleasant words are as an honeycomb, sweet to the soul, and health to the bones."

Week 4

Lesson 1

- | | | |
|-----|---------------|--|
| 1. | alimentary | concerned with food, nutrition, or digestion |
| 2. | mucous | containing, producing, or secreting mucus |
| 3. | membrane | a thin pliable tissue serving as a covering or a lining |
| 4. | larynx | human organ of voice |
| 5. | esophagus | tube from the mouth to the stomach |
| 6. | gastric | pertaining to the stomach |
| 7. | enzymes | substance produced by cells which initiates chemical reactions |
| 8. | chyme | the thick semifluid mass of partly digested food that is passed from the stomach to the duodenum |
| 9. | duodenum | part of the small intestine connected to the stomach |
| 10. | carbohydrates | compounds like sugars and starch which serve as a major energy source for mammals and humans |
| 11. | ulcer | open sore on skin, membrane, or tissue |
| 12. | virus | microscopic organism capable of reproducing only within living cells |

Lesson 2

1. d
2. g
3. m
4. a
5. j
6. c
7. o
8. b

SWQX155 HEALTH WEEKLY QUIZ #3

Is a Part of S155 Complete Subject Set

Name _____

Fill in the blanks (6 pts. each answer).

1. The _____ has 26 separate bones.
2. The _____ glands carry salt, water, and waste out of the body.
3. Acne affects ____% of teenagers.
4. The _____ bones support the skull.
5. Muscles are attached to the bones by _____.
6. Acne is related to the hormones of _____.
7. The average person may have as many as _____ hairs on his/her scalp.
8. The difference in men's and women's _____ is described in the Bible as being designed by God.
9. The skeleton of the average adult consists of _____ bones.
10. Blood cells are made in the bone _____.
11. Another term for sebaceous glands is _____ glands.

Answer the following questions (6 pts. each answer).

12.-13. What are two things that the bones do?

- a. _____
- b. _____

14.-15. What are two things that the skin does?

- a. _____
- b. _____

Complete the following list (2½ pts. each).

List four things that are important to the care of the skin.

16. _____
17. _____
18. _____
19. _____

SWQA155 HEALTH WEEKLY QUIZ ANSWERS #3

Is a Part of S155 Complete Subject Set

1. spine
2. sweat
3. 90
4. neck
5. tendons
6. puberty
7. 125,000
8. hair
9. 206
10. marrow
11. oil
- 12.-13. *Any two of these:*
 - give shape and support to the body
 - protect internal organs
 - store calcium
- 14.-15. *Any two of these:*
 - shields the organs and tissues underneath from injury
 - protects from germs
 - insulates against heat and cold
 - helps to eliminate body fluids through perspiration
 - produces the body's supply of Vitamin D
 - enables the body to feel cold, heat, touch, and pressure
16. proper diet
17. rest
18. exercise
19. cleanliness

SWQA155 HEALTH WEEKLY QUIZ ANSWERS #4

Is a Part of S155 Complete Subject Set

1. g
2. i
3. e
4. a
5. c
6. h
7. k
8. f
9. b
10. l
11. d
12. j

Is a Part of S155 Complete Subject Set

Name _____

Match the following (2 pts. each).

- | | |
|-----------------------|---|
| ___ 1. diarrhea | a. improper breakdown food |
| ___ 2. indigestion | b. most important step for curing bad breath |
| ___ 3. woman's hair | c. chemical messengers to the organs |
| ___ 4. long life | d. three or more loose stools in one day |
| ___ 5. dental hygiene | e. 26 separate bones |
| ___ 6. spine | f. glory to her |
| ___ 7. tendons | g. process to convert food to usable substances |
| ___ 8. bone marrow | h. God's promise in exchange for obedience to parents |
| ___ 9. digestion | i. where blood cells are made |
| ___ 10. hormones | j. connect muscles to bones |

Fill in the blanks (2 pts. each).

11. Acne is related to the hormones of _____.
12. _____ is another term for bad breath.
13. The medical term for gum disease is _____.
14. God did not intend for us to live as _____.
15. _____ is helpful in personal hygiene, but it is no substitute for cleanliness.
- 16.-18. The three conduits through which blood flows throughout the body are _____, _____, and _____.
- 19.-20. Two times when you should *always* wash your hands are before _____, and after _____.

Answer the following questions (2 pts. each answer).

21. What is it called when a person cannot see things close by? _____
22. What is it called when a person cannot see things far away? _____
23. What is another term for the trachea? _____

Is a Part of S155 Complete Subject Set

Name _____

- 24. What is another term for the larynx? _____
- 25. Approximately how many times does the heart beat in one minute? _____
- 26. What is the term for infrequent and difficult bowel movements? _____
- 27. What is the body's self defense against harmful substances called? _____

- 28. Plaque which has hardened onto the teeth is called what? _____
- 29. What would be the result of the children of Israel's following God's instruction about health and hygiene? _____

- 30. What happens to the blood in the lungs? _____

Complete the following lists (2 pts. each answer).

- 31.-33. List three examples of Biblical principles which lead to good health.
 - a. _____
 - b. _____
 - c. _____
- 34.-36. List three of the five things mentioned in the text which are indications that a change of diet may be needed.
 - a. _____
 - b. _____
 - c. _____
- 37.-39. List three of the major health problems which can be attributed to poor diet.
 - a. _____
 - b. _____
 - c. _____

Is a Part of S155 Complete Subject Set

Name _____

40.-45. List six of the eight rules given in the text for good personal hygiene.

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Write Psalms 103:1-3 on the lines below (10 pts.).

SQTA155 HEALTH QUARTER TEST ANSWERS #1

Is a Part of S155 Complete Subject Set

1. d
2. a
3. f
4. h
5. b
6. e
7. j
8. i
9. g
10. c
11. puberty
12. halitosis
13. gingivitis
14. vegetarians
15. Deodorant
- 16.-18. (*any order*) arteries, veins, capillaries
- 19.-20. eating, using the toilet
21. farsightedness
22. nearsightedness
23. windpipe
24. voice box
25. 70
26. constipation
27. immune system
28. tartar
29. They could avoid the diseases that were common to the Egyptians.
30. It releases carbon dioxide and picks up a fresh supply of oxygen.
- 31.-33. obedience to parents
merry heart
sanitation and hygiene
- 34.-36. *Any three of these:*
having excessive trouble getting up in the morning
lacking energy for more than just the most basic things of life
needing more than the normal amount of sleep for one's age
requiring stimulants like caffeine, sugar, alcohol, or tobacco to function
being unusually short-tempered
- 37.-39. *Any three of these:*
heart disease
stroke
some forms of cancer
high blood pressure

SQTA155 HEALTH QUARTER TEST ANSWERS #1

Is a Part of S155 Complete Subject Set

40.-45. *Any six of these:*

Take regular baths or showers.

Wash hands frequently, before meals, after using the toilet.

Wash clothes frequently.

Change underwear daily.

Brush your teeth after every meal.

Wash your hair and scalp often.

Exercise regularly.

Use deoderant daily.

Psalms 103:1-3 “Bless the LORD, O my soul: and all that is within me, bless his holy name. Bless the LORD, O my soul, and forget not all his benefits: Who forgiveth all thine iniquities; who healeth all thy diseases.”