

9. Using the key choices, choose all responses that apply to the following descriptions. Enter the appropriate letter(s) or term(s) in the answer blanks.

Key Choices

- A. Stratum basale
- B. Stratum corneum
- C. Stratum granulosum
- D. Stratum lucidum
- E. Stratum spinosum
- F. Papillary layer
- G. Reticular layer
- H. Epidermis as a whole
- I. Dermis as a whole

- Stratum lucidum 1. Translucent cells, containing keratin
- Stratum corneum/lucidum 2. Strata containing all or mostly dead cells
- Papillary layer 3. Dermis layer responsible for fingerprints
- Dermis 4. Vascular region
- Stratum basale 5. Epidermal region involved in rapid cell division; most inferior epidermal layer
- Stratum corneum 6. Scalelike cells full of keratin that constantly flake off
- Dermis 7. Site of elastic and collagen fibers
- Stratum basale 8. Site of melanin formation
- epidermis 9. Major skin area from which the derivatives (hair, nails) arise
- Stratum corneum 10. Epidermal layer containing the oldest cells
- dermis 11. When tanned becomes leather

10. Circle the term that does not belong in each of the following groupings.

- 1. Reticular layer    Keratin    Dermal papillae    Meissner's corpuscles
- 2. Melanin    Freckle    Wart    Malignant melanoma
- 3. Prickle cells    Stratum basale    Stratum spinosum    Cell shrinkage
- 4. Meissner's corpuscles    Lamellar corpuscles    Merkel cells    Arrector pili

11. This exercise examines the relative importance of three pigments in determining skin color. Indicate which pigment is identified by the following descriptions by inserting the appropriate answer from the key choices in the answer blanks.

*Key Choices*

- A. Carotene                      B. Hemoglobin                      C. Melanin

- Melanin                      1. Most responsible for the skin color of dark-skinned people  
Carotene                      2. Provides an orange cast to the skin  
Melanin.                      3. Provides a natural sunscreen  
Hemoglobin                      4. Most responsible for the skin color of Caucasians  
Melanin.                      5. Phagocytized by keratinocytes  
Carotene                      6. Found predominantly in the stratum corneum  
Hemoglobin                      7. Found within red blood cells in the blood vessels

12. Complete the following statements in the blanks provided.

- heat                      1. Radiation from the skin surface and evaporation of sweat are two ways in which the skin helps to get rid of body (1).  
subcutaneous adipose                      2. Fat in the (2) tissue layer beneath the dermis helps to insulate the body.  
D                      3. A vitamin that is manufactured in the skin is (3).  
elasticity                      4. Wrinkling of the skin is caused by loss of the (4) of the skin.  
\* oxygen                      ⑤ A decubitus ulcer results when skin cells are deprived of (5).  
Cyanosis                      6. (6) is a bluish cast of the skin resulting from inadequate oxygenation of the blood.

**Appendages of the Skin**

13. For each true statement, write *T*. For each false statement, correct the underlined word(s) and insert your correction in the answer blank.

- Sweat                      1. A saltwater solution is secreted by sebaceous glands.  
keratin                      2. The most abundant protein in dead epidermal structures such as hair and nails is melanin.  
Ⓡ                      3. Sebum is an oily mixture of lipids, cholesterol, and cell fragments.  
shaft                      4. The externally observable part of a hair is called the root.  
dermis                      5. The epidermis provides mechanical strength to the skin.

14. Figure 4-3 is a diagram of a cross-sectional view of a hair in its follicle. Complete this figure by following the directions in steps 1-3.

1. Identify the two portions of the follicle wall by placing the correct name of the sheath at the end of the appropriate leader line.
2. Use different colors to color these regions.
3. Label, color-code, and color the three following regions of the hair.

- Cortex
- Cuticle
- Medulla

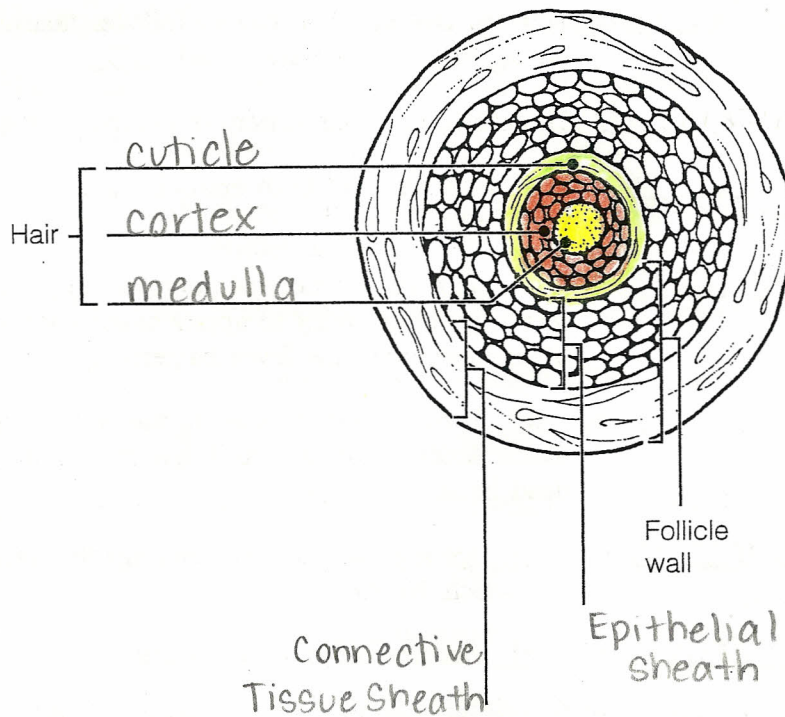


Figure 4-3

15. Circle the term that does not belong in each of the following groupings.

1. Luxuriant hair growth      Testosterone      Poor nutrition      Good blood supply
2. Vitamin D      Cholesterol      UV radiation      Keratin
3. Stratum corneum      Nail matrix      Hair bulb      Stratum basale
4. Scent glands      Eccrine glands      Apocrine glands      Axilla
5. Terminal hair      Vellus hair      Dark, coarse hair      Eyebrow hair

\* 16. What is the scientific term for baldness? Alopecia

17. Using the key choices, complete the following statements. Insert the appropriate letter(s) or term(s) in the answer blanks.

*Key Choices*

- A. Arrector pili                      C. Hair                      E. Sebaceous glands      G. Sweat gland (eccrine)  
 B. Cutaneous receptors    D. Hair follicle(s)    F. Sweat gland (apocrine)

Sebaceous glands

1. A blackhead is an accumulation of oily material produced by (1).

arrector pili

2. Tiny muscles attached to hair follicles that pull the hair upright during fright or cold are called (2).

Sweat (eccrine) gland

3. The most numerous variety of perspiration gland is the (3).

hair follicle

4. A sheath formed of both epithelial and connective tissues is the (4).

Sweat (apocrine)

5. A less numerous variety of perspiration gland is the (5). Its secretion (often milky in appearance) contains proteins and other substances that favor bacterial growth.

hair

6. (6) is found everywhere on the body except the palms of the hands, soles of the feet, and lips, and it primarily consists of dead keratinized cells.

cutaneous receptors

7. (7) are specialized nerve endings that respond to temperature and touch, for example.

Sebaceous

Sweat (apocrine)

8. (8) become more active at puberty.

Sweat (eccrine)

9. Part of the heat-liberating apparatus of the body is the (9).

Sebaceous

10. Secretin contains bacteria-killing substances.

18. Circle the term that does not belong in each of the following groupings.

1. Sebaceous gland

Hair

Arrector pili

Epidermis

2. Radiation

Absorption

Conduction

Evaporation

3. Cortex

Medulla

Cuticle

Epithelial sheath

4. Scent glands

Eccrine glands

Apocrine glands

Axilla

5. Cyanosis

Erythema

Wrinkles

Pallor