

PHYSIO | Integumentary System Review Worksheet | KEY

Objective: Describe the structure and functions of the skin

1. List the 5 functions of the integumentary system:

- A. Body temperature regulation
- B. Protection
- C. Cutaneous Sensations
- D. Excretion and absorbtion
- E. Synthesis of Vitamin D

2. Circle the correct answer | True or False | The dermis is superficial to the epidermis.

A. Explain your answer:

The epidermis is superficial to the dermis or The dermis is deep to the epidermis

Match the skin structure to its tissue type.

There can be more than one answer. Also, choices may be used once, more than once, or not at all:

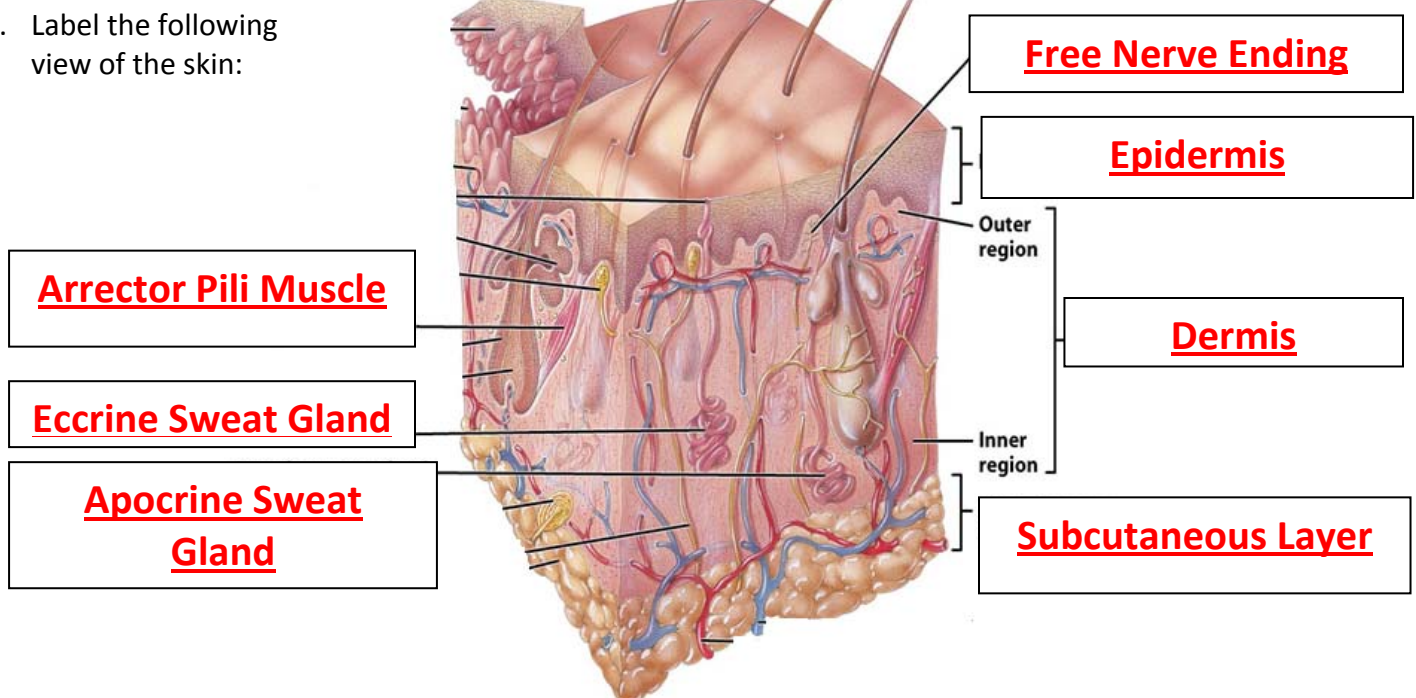
3. Epidermis: D

4. Dermis: F & I

5. Subcutaneous: F & G

- A. Simple Squamous Epithelial
- B. Simple Cuboidal Epithelial
- C. Simple Columnar Epithelial
- D. Stratified Squamous Epithelial
- E. Stratified Cuboidal Epithelial
- F. Areolar Connective Tissue
- G. Adipose Connective Tissue
- H. Dense Regular Connective Tissue
- I. Dense Irregular Connect Tissue

6. Label the following view of the skin:



7. What are the functions of the subcutaneous layer, and is it considered a layer of the skin?
- The subcutaneous layer is not one of the layers of skin.
 - Attaches to underlying tissues and organs.
 - Storage for fat.
 - Supplies the dermis with blood.
 - Sensitive to pressure.
8. The epidermis is composed mostly of which type of cells? Keratinized stratified squamous epithelium

Match the description to the type of epidermal cell:

9. Keratinocytes: C
10. Melanocytes: D
11. Langerhans cells: B
12. Merkel cells: A
- A. Detect touch/sensory sensations.
 - B. Produce immune response against pathogens entering skin.
 - C. 4 – 5 layers, produces keratin, waterproofs skin.
 - D. Produce the pigment melanin.

Objective: Explain the basis for difference in skin colors

Match the following pigments found in skin to their description.

There are multiple answers per pigment and all choices are to be used.

13. Melanin: A, D, E
14. Carotene: C, F
15. Hemoglobin: B, G, H
- A. Brown, Black, Yellow Pigment
 - B. Pink to Red Pigment
 - C. Yellow to Orange pigment
 - D. Overall skin shade is dependent upon the amount of this pigment produced.
 - E. Gives some protection against UV
 - F. Found subcutaneous layer and adipose tissue
 - G. The color is due to the pigment inside red blood cells.
 - H. Shade depends on amount of blood flow and oxygen.

Objective: Describe the structure and functions of the accessory organs of the skin

16. List three specific functions of hair:

- A. Protect from injury (scalp)
- B. Foreign particles (nose)
- C. Prevents heat loss/thermoregulation

17. Where will you **NOT** find hair? **On the palmer surface of the palms and planter surface of the feet.**

18. What are hair root plexuses? **Nerve endings.**

For questions 19 – 23, decide if the descriptions deserve a 'T' for True or a 'F' for False.
If a statement is false correct the description to make it true.

19. Hair is mainly composed of cerumen: **False**

Hair is mainly composed of keratin.

20. Hair color is due to melanin: **True**

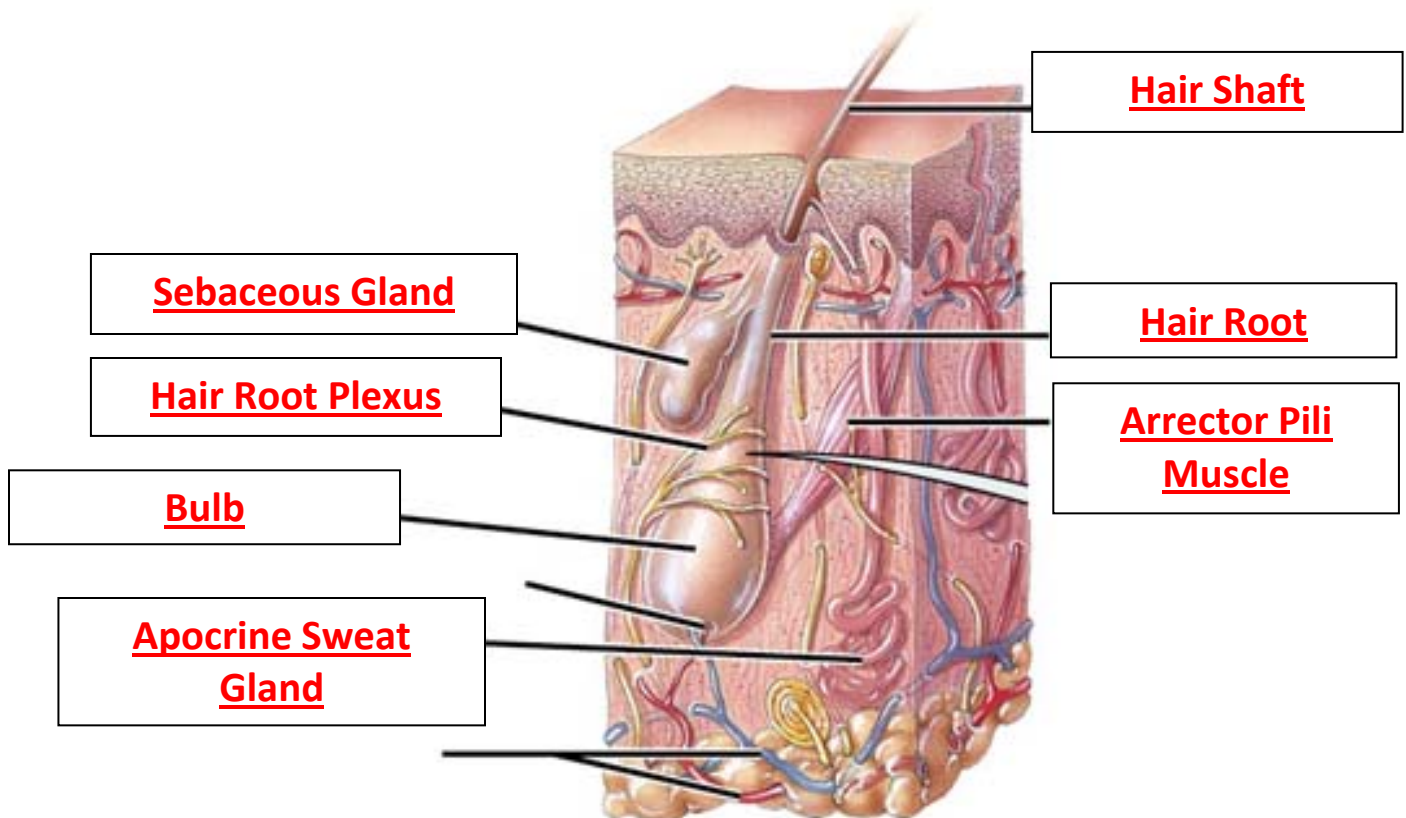
21. Sebaceous glands are associated with hair: **True**

22. Contraction of the arrector pili muscles make hair stand erect: **True**

23. When you are cutting your hair you are cutting the follicle: **False**

When you are cutting your hair you are cutting the shaft.

24. Label the following view of skin's accessory structures:



Match the following glands found in skin to their description. There are multiple answers per gland and all choices are to be used.

25. Sebaceous Glands: **B, H, J**

26. Sudoriferous Glands: **D, C, F**

27. Apocrine Sweat Glands: **K**

28. Eccrine Sweat Glands: **G**

29. Ceruminous Glands: **I, L, A, E**

- A. Found in external auditory canal
- B. Protects skin from drying out and bacteria
- C. Apocrine sweat glands
(belongs to another type of gland)
- D. Secrete sweat
- E. Provide barrier against foreign bodies
- F. Eccrine sweat glands
(belongs to another type of gland)
- G. Widely distributed & aid in thermoregulation
- H. Connected to hair follicles
- I. Secrete wax
- J. Secrete oily sebum
- K. Found in the axilla, groin, areolae, beard
- L. Combine with sebum to produce earwax

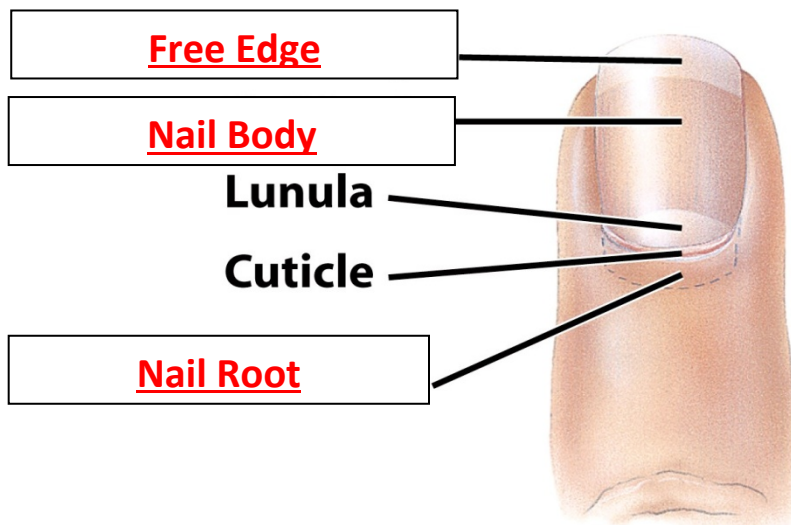
30. Where would you find matrix producing hair cells? **The bulb**

31. List three functions of nails?

- A. **Helps to grab/manipulate objects**
- B. **Scratching**
- C. **Protects ends of digits**

32. Why are nails so strong and durable? **They are made of tightly compact plates of keratinized cells.**

33. Label the following view of skin's accessory structures:



Dorsal view