Each of the following is a function of the integumentary system, except

A. protection of underlying tissue.
B. excretion of salts and wastes.
C. maintenance of body temperature.
D. synthesis of vitamin C.
E. storage of nutrients.
Each of the following is a function of the integumentary system, except
A. protection of underlying tissue.
B. excretion of salts and wastes.
C. maintenance of body temperature.
D. synthesis of vitamin C.
E. storage of nutrients.
Skin inflammation is termed
A. cutaneitis.
B. dermatitis.
C. epidermatitis.
D. superficialis.
E. melanocytis.
Skin inflammation is termed

A. cutaneitis.

**B. dermatitis.**

C. epidermatitis.

D. superficialis.

E. melanocytis.
An important vitamin that is formed in the skin when it is exposed to sunlight is

A. vitamin A.
B. vitamin B.
C. vitamin C.
D. vitamin D.
E. vitamin E.
An important vitamin that is formed in the skin when it is exposed to sunlight is

A. vitamin A.
B. vitamin B.
C. vitamin C.

**D. vitamin D.**
E. vitamin E.
Which of the following is a function of the integumentary system?

A. Synthesis of vitamin C
B. Absorption of salts
C. Absorption of water
D. Synthesis the vitamin E
E. Synthesis of vitamin D
Which of the following is a function of the integumentary system?

A. Synthesis of vitamin C  
B. Absorption of salts  
C. Absorption of water  
D. Synthesis the vitamin E  
E. Synthesis of vitamin D
A surgical incision parallel to the lines of cleavage

A. closes and heals with relatively little scarring.
B. has a tendency to reopen.
C. heals slower than incisions made perpendicular to the lines of cleavage.
D. does not affect the healing process.
E. requires no sutures.
A surgical incision parallel to the lines of cleavage

A. closes and heals with relatively little scarring.
B. has a tendency to reopen.
C. heals slower than incisions made perpendicular to the lines of cleavage.
D. does not affect the healing process.
E. requires no sutures.
The two components of the cutaneous membrane are the

A. epidermis and dermis.
B. epidermis and hypodermis.
C. dermis and hypodermis.
D. integument and dermis.
E. epidermis and superficial fascia.
The two components of the cutaneous membrane are the

A. epidermis and dermis.
B. epidermis and hypodermis.
C. dermis and hypodermis.
D. integument and dermis.
E. epidermis and superficial fascia.
Exposure of the skin to ultraviolet light

A. Can result in increased numbers of melanocytes forming in the skin
B. Can result in decreased melanin production by melanocytes
C. Can cause destruction of vitamin D
D. Can result in damage to the DNA of cells in the stratum basale
E. Has no effect on skin cells
ANSWER

- Exposure of the skin to ultraviolet light
  A. Can result in increased numbers of melanocytes forming in the skin
  B. Can result in decreased melanin production by melanocytes
  C. Can cause destruction of vitamin D
  D. **Can result in damage to the DNA of cells in the stratum basale**
  E. Has no effect on skin cells
_____ are macrophages in the epidermis that are part of the immune system.

A. Langerhans cells
B. Basal cells
C. Merkel cells
D. Squamous cells
E. Melanocytes
ANSWER

- _____ are macrophages in the epidermis that are part of the immune system.
  
  A. Langerhans cells
  B. Basal cells
  C. Merkel cells
  D. Squamous cells
  E. Melanocytes
The dermis provides
A. mechanical strength.
B. flexibility.
C. protection for underlying tissues.
D. A and C
E. all of the above
The dermis provides

A. mechanical strength.
B. flexibility.
C. protection for underlying tissues.
D. A and C
E. all of the above
Hair that has air bubble in the medulla is

A. Dark hair
B. Blond hair
C. Red hair
D. Gray hair
E. White hair
Hair that has air bubble in the medulla is

A. Dark hair
B. Blond hair
C. Red hair
D. Gray hair
E. White hair
Accessory structures of the skin include all of the following, except:

A. hair follicles.
B. sebaceous glands.
C. sweat glands.
D. epidermis.
E. nails.
Accessory structures of the skin include all of the following, except

A. hair follicles.
B. sebaceous glands.
C. sweat glands.
D. epidermis.
E. nails.
Of the organs listed below, select the largest.

A. liver
B. skin
C. brain
D. heart
E. stomach
Of the organs listed below, select the largest.

A. liver
B. skin
C. brain
D. heart
E. stomach
When the arrector pili muscles contract,
A. “goose bumps” are formed.
B. hairs are shed.
C. sweat is released from sweat glands.
D. shivering occurs.
E. the skin changes color.
When the arrector pili muscles contract,
A. “goose bumps” are formed.
B. hairs are shed.
C. sweat is released from sweat glands.
D. shivering occurs.
E. the skin changes color.
Select the most correct statement concerning skin cancer

A. Most tumors that arise on the skin are malignant
B. Squamous cell carcinomas arise from the stratum corneum
C. Basal cell carcinomas are the least common but most malignant
D. Melanomas are rare but must be removed quickly to prevent them from metastatizing
Select the most correct statement concerning skin cancer

A. Most tumors that arise on the skin are malignant
B. Squamous cell carcinomas arise from the stratum corneum
C. Basal cell carcinomas are the least common but most malignant
D. Melanomas are rare but must be removed quickly to prevent them from metastatizing
A needle would pierce the epidermal layers of the forearm in which order?

A. Basale, spinosum, granulosum, corneum
B. Basale, spinosum, granulosum, lucidum, corneum
C. Granulosum, basale, spinosum, corneum
D. Corneum, granulosum, spinosum, basale
A needle would pierce the epidermal layers of the forearm in which order?

A. Basale, spinosum, granulosum, corneum
B. Basale, spinosum, granulosum, lucidum, corneum
C. Granulosum, basale, spinosum, corneum
D. Corneum, granulosum, spinosum, basale
Which of the following glands are most responsible for regulating body temperature

A. Sebaceous glands
B. Apocrine sebaceous glands
C. Eccrine sebaceous glands
D. Ceruminous glands
E. Mammary glands
Which of the following glands are most responsible for regulating body temperature

A. Sebaceous glands
B. Apocrine sudoiferous glands
C. Eccrine sudoiferous glands
D. Ceruminous glands
E. Mammary glands
The most abundant cells in the epidermis are
A. adipocytes.
B. keratinocytes.
C. Merkel cells.
D. melanocytes.
E. Langerhans cells.
The most abundant cells in the epidermis are

A. adipocytes.

B. keratinocytes.

C. Merkel cells.

D. melanocytes.

E. Langerhans cells.
The type of burn that may require a skin graft is a

A. first-degree burn.
B. second-degree burn.
C. third-degree burn.
D. partial-thickness burn.
E. both C and D
The type of burn that may require a skin graft is a

A. first-degree burn.
B. second-degree burn.
C. third-degree burn.
D. partial-thickness burn.
E. both C and D
The _____ in keratinocytes protects your epidermis and dermis from the harmful effects of sunlight.

A. oil
B. sweat
C. melanin
D. carotene
E. keratin
ANSWER

The ______ in keratinocytes protects your epidermis and dermis from the harmful effects of sunlight.
A. oil
B. sweat
C. melanin
D. carotene
E. keratin
When a fair-skinned person blushes, why does his or her skin turn red?

A. The blood supply to the skin increases.
B. The number of red melanocytes in the skin increases.
C. Melanocytes increase production of red pigments.
D. The blood supply to the skin decreases.
E. Increased heat causes the skin to turn red.
ANSWER

- When a fair-skinned person blushes, why does his or her skin turn red?
  A. The blood supply to the skin increases.
  B. The number of red melanocytes in the skin increases.
  C. Melanocytes increase production of red pigments.
  D. The blood supply to the skin decreases.
  E. Increased heat causes the skin to turn red.
Acne is a disorder associated with:
A. Sweat glands
B. Meibomian glands
C. Sebaceous glands
D. Ceruminous glands
E. Sudoiferous glands
Acne is a disorder associated with

A. Sweat glands
B. Meibomian glands
C. Sebaceous glands
D. Ceruminous glands
E. Sudoiferous glands
The layer of the epidermis that contains cells undergoing division is the

A. stratum corneum.
B. stratum lucidum.
C. stratum germinativum.
D. stratum granulosum.
E. stratum spinosum.
ANSWER

- The layer of the epidermis that contains cells undergoing division is the
  A. stratum corneum.
  B. stratum lucidum.
  C. stratum germinativum.
  D. stratum granulosum.
  E. stratum spinosum.
Vitamin D3 is synthesized in which layer of the skin?

A. Stratum spinosum
B. Stratum lucidum
C. Stratum corneum
D. Papillary layer
E. Reticular layer
Vitamin D3 is synthesized in which layer of the skin?

A. Stratum spinosum
B. Stratum lucidum
C. Stratum corneum
D. Papillary layer
E. Reticular layer
Stretch marks occur when

A. the skin is stretched in normal movements.
B. surgical incisions are made perpendicular to the skin’s lines of cleavage.
C. the skin is so extensively stretched that its elastic capabilities are exceeded.
D. athletes overextend a muscle.
E. the hair follicles cease to produce hairs
ANSWER

Stretch marks occur when

A. the skin is stretched in normal movements.

B. surgical incisions are made perpendicular to the skin’s lines of cleavage.

C. the skin is so extensively stretched that its elastic capabilities are exceeded.

D. athletes overextend a muscle.

E. the hair follicles cease to produce hairs
The dermis

A. Is an avascular connective tissue layer
B. Has two distinct layers
C. Lacks sensory receptors and glands
D. Is where melanocytes are found
The dermis

A. Is an avascular connective tissue layer
B. Has two distinct layers
C. Lacks sensory receptors and glands
D. Is where melanocytes are found
While walking barefoot in the woods, Joe stepped on a thorn that penetrated through the sole of his foot to the dermis. How many layers of epidermis did the thorn penetrate?

A. 1  
B. 2  
C. 3  
D. 4  
E. 5
While walking barefoot in the woods, Joe stepped on a thorn that penetrated through the sole of his foot to the dermis. How many layers of epidermis did the thorn penetrate?

A. 1  
B. 2  
C. 3  
D. 4  
E. 5
Prevention of water loss is a function of the:

A. stratum germinativum
B. dermis
C. stratum corneum
D. subcutaneous tissue
E. stratum lucidum
Prevention of water loss is a function of the:

A. stratum germinativum
B. dermis
C. **stratum corneum**
D. subcutaneous tissue
E. stratum lucidum
An epidermal layer found only in the skin of the palms of the hands and the soles of the feet is the
A. stratum corneum.
B. stratum lucidum.
C. stratum germinativum.
D. stratum granulosum.
E. stratum spinosum.
An epidermal layer found only in the skin of the palms of the hands and the soles of the feet is the

A. stratum corneum.
B. stratum lucidum.  
C. stratum germinativum.
D. stratum granulosum.
E. stratum spinosum.
If a splinter penetrated the skin to the third epidermal layer of the sole of the foot, which cells would be damaged?

A. Granulosum
B. Basale
C. Lucidum
D. spinosum
If a splinter penetrated the skin to the third epidermal layer of the sole of the foot, which cells would be damaged?

A. Granulosum
B. Basale
C. Lucidum
D. spinosum
If the papilla of a hair follicle is destroyed,

A. the hair produced by the follicle will change from terminal to vellus.
B. the color of the hair will become lighter.
C. the texture of the hair will become coarser.
D. the follicle will not produce a hair.
E. hair production will not be affected.
ANSWER

- If the papilla of a hair follicle is destroyed,
  A. the hair produced by the follicle will change from terminal to vellus.
  B. the color of the hair will become lighter.
  C. the texture of the hair will become coarser.
  D. the follicle will not produce a hair.
  E. hair production will not be affected.
Charlie is badly burned in an accident. When he reaches the emergency room, the examining physician finds that he can remove entire hair follicles from Charlie’s arm when he gently pulls on a hair with his forceps. Charlie is suffering from a

A. first-degree burn.
B. second-degree burn.
C. third-degree burn.
D. partial-thickness burn.
E. epidermal burn.
Charlie is badly burned in an accident. When he reaches the emergency room, the examining physician finds that he can remove entire hair follicles from Charlie’s arm when he gently pulls on a hair with his forceps. Charlie is suffering from a

A. first-degree burn.
B. second-degree burn.
C. third-degree burn.
D. partial-thickness burn.
E. epidermal burn.
Acne is caused by a bacterial inflammation of which glands

A. Sebaceous glands
B. Apocrine sudoiferous glands
C. Eccrine sudoiferous glands
D. Ceruminous glands
E. Mammary glands
Acne is caused by a bacterial inflammation of which glands

A. Sebaceous glands
B. Apocrine sudoiferous glands
C. Eccrine sudoiferous glands
D. Ceruminous glands
E. Mammary glands
Skin can regenerate effectively even after considerable damage has occurred because
A. the epidermis of the skin has a rich supply of small blood vessels.
B. stem cells persist in both epithelial and connective-tissue components of the skin even after injury.
C. fibroblasts in the dermis can give rise to new germinal cells in the epidermis.
D. contraction in the area of the injury brings cells of adjacent strata together.
E. cells of the stratum basale cannot migrate to other positions in the skin.
Skin can regenerate effectively even after considerable damage has occurred because

A. the epidermis of the skin has a rich supply of small blood vessels.

B. stem cells persist in both epithelial and connective-tissue components of the skin even after injury.

C. fibroblasts in the dermis can give rise to new germinal cells in the epidermis.

D. contraction in the area of the injury brings cells of adjacent strata together.

E. cells of the stratum basale cannot migrate to other positions in the skin.
Large quantities of keratohyalin would be found in the epidermal layer called the

A. stratum corneum.
B. stratum lucidum.
C. stratum germinativum.
D. stratum granulosum.
E. stratum spinosum.
Large quantities of keratohyalin would be found in the epidermal layer called the

A. stratum corneum.
B. stratum lucidum.
C. stratum germinativum.
D. **stratum granulosum**.
E. stratum spinosum.
Defects in keratin, where the intermediate filaments collapse, could result in which of the following symptoms.

A. Formation of large, fluid filled blisters that develop in response to minor trauma
B. Soft bones
C. A detached retina
D. Increased risk of cancer
E. Weak wrinkled skin
Defects in keratin, where the intermediate filaments collapse, could result in which of the following symptoms.

A. Formation of large, fluid filled blisters that develop in response to minor trauma
B. Soft bones
C. A detached retina
D. Increased risk of cancer
E. Weak wrinkled skin
The following are stages in the regeneration of skin following an injury.

1. Contraction occurs.
2. Cells of the stratum germinativum divide and migrate.
3. Granulation tissue is formed.
4. A scab forms on the surface.
5. The correct order for these events is

A. 1, 2, 3, 4.
B. 4, 3, 2, 1.
C. 4, 3, 1, 2.
D. 3, 4, 1, 2.
E. 2, 4, 1, 3.
The following are stages in the regeneration of skin following an injury.

1. Contraction occurs.
2. Cells of the stratum germinativum divide and migrate.
3. Granulation tissue is formed.
4. A scab forms on the surface.
5. The correct order for these events is

A. 1, 2, 3, 4.
B. 4, 3, 2, 1.
C. 4, 3, 1, 2.
D. 3, 4, 1, 2.
E. 2, 4, 1, 3.
Deodorants are used to mask the odor of _______ secretions

A. Sebaceous
B. Apocrine
C. Eccrine
D. Merocrine
E. Ceruminous
Deodorants are used to mask the odor of _______ secretions

A. Sebaceous
B. Apocrine
C. Eccrine
D. Meroocrine
E. Ceruminous
Melanocytes

A. Are spidery shaped cells in contact with cells in the stratum basale
B. Form structures called melanosomes
C. Produce substances incorporated by other cells
D. All of the above are correct
Melanocytes

A. Are spidery shaped cells in contact with cells in the stratum basale
B. Form structures called melanosomes
C. Produce substances incorporated by other cells
D. All of the above are correct
The layer of the epidermis that contains melanocytes is the
A. stratum corneum.
B. stratum lucidum.
C. stratum basale.
D. stratum granulosum.
E. stratum spinosum.
The layer of the epidermis that contains melanocytes is the
A. stratum corneum.
B. stratum lucidum.
C. stratum basale.
D. stratum granulosum.
E. stratum spinosum.
Psoriasis is a skin disorder in which there is abnormal increased mitotic activity in the
A. Stratum spinosum
B. Stratum lucidum
C. Stratum basale
D. Stratum corneum
E. Papillary layer
Psoriasis is a skin disorder in which there is abnormal increased mitotic activity in the

A. Stratum spinosum
B. Stratum lucidum
C. Stratum basale
D. Stratum corneum
E. Papillary layer
Keratinocytes are the predominant cells in the

A. Epidermis
B. Papillary region of the dermis
C. Reticular region of the dermis
D. Subcutaneous layer
E. All of the above are correct
Keratinocytes are the predominant cells in the

A. Epidermis
B. Papillary region of the dermis
C. Reticular region of the dermis
D. Subcutaneous layer
E. All of the above are correct
Nourishment to cells in the epidermis is provided by

A. Blood vessels running through the stratum basale
B. Keratinocytes
C. Blood vessels in the dermal papillae
D. Bacteria that live in sebaceous glands
E. Both A and C are correct
Nourishment to cells in the epidermis is provided by

A. Blood vessels running through the stratum basale
B. Keratinocytes
C. Blood vessels in the dermal papillae
D. Bacteria that live in sebaceous glands
E. Both A and C are correct
Absorption of damaging UV rays is the primary function of

A. Keratin
B. Sebum
C. Cerumen
D. Melanin
E. Keratohyalin
Absorption of damaging UV rays is the primary function of

A. Keratin
B. Sebum
C. Cerumen
D. Melanin
E. Keratohyalin
Scar tissue is the result of

A. an abnormally large number of collagen fibers and relatively few blood vessels at the repair site.
B. increased numbers of epidermal layers in the area of the injury.
C. a thickened stratum germinativum in the area of the injury.
D. increased numbers of fibroblasts and mast cells in the injured area.
E. a lack of hair follicles and sebaceous glands in the injured area.
Scar tissue is the result of

A. an abnormally large number of collagen fibers and relatively few blood vessels at the repair site.

B. increased numbers of epidermal layers in the area of the injury.

C. a thickened stratum germinativum in the area of the injury.

D. increased numbers of fibroblasts and mast cells in the injured area.

E. a lack of hair follicles and sebaceous glands in the injured area.
The layer of skin from which new epidermal cells are derived is the
A. Stratum corneum
B. Stratum basale
C. Stratum lucidum
D. Dermis
E. Reticular layer
The layer of skin from which new epidermal cells are derived is the
A. Stratum corneum
B. Stratum basale
C. Stratum lucidum
D. Dermis
E. Reticular layer
An albino individual lacks the ability to produce
A. melanin.
B. keratin.
C. carotene.
D. perspiration.
E. eleidin.
An albino individual lacks the ability to produce

A. melanin.
B. keratin.
C. carotene.
D. perspiration.
E. eleidin.
Wrinkles and sagging skin in elderly individuals are the result of
A. increased production of epidermis.
B. thinning of the epidermis and decline of the protein elastin.
C. increased keratinization of the epidermis.
D. the loss of glands and hair follicles from the skin.
E. decreased thickness of the dermis.
ANSWER

- Wrinkles and sagging skin in elderly individuals are the result of
  A. increased production of epidermis.
  B. thinning of the epidermis and decline of the protein elastin.
  C. increased keratinization of the epidermis.
  D. the loss of glands and hair follicles from the skin.
  E. decreased thickness of the dermis.
Folds that occur at or near joints where the skin is tightly secured to deeper structures so it cannot slide easily are found in the __________ layer.

A. Papillary layer
B. Reticular layer
C. Stratum basale
D. Hypodermis
E. Stratum corneum
Folds that occur at or near joints where the skin is tightly secured to deeper structures so it cannot slide easily are found in the _________ layer.

A. Papillary layer
B. Reticular layer
C. Stratum basale
D. Hypodermis
E. Stratum corneum
The function of keratin is to
A. Make bone hard
B. Make skin tough and waterproof
C. Protect skin from ultraviolet light
D. Provide added pigment
E. Provide nourishment to the epidermal cells
The function of keratin is to
A. Make bone hard
B. Make skin tough and waterproof
C. Protect skin from ultraviolet light
D. Provide added pigment
E. Provide nourishment to the epidermal cells
The reproducing cells of the epidermis are found in the

A. Stratum basale
B. Stratum spinosum
C. Stratum lucidum
D. Stratum corneum
E. All of the above
The reproducing cells of the epidermis are found in the

A. Stratum basale
B. Stratum spinoosum
C. Stratum lucidum
D. Stratum corneum
E. All of the above
The layer of the skin that contains the blood vessels and nerves closest to the surface of the skin is the ______ layer.

A. papillary
B. reticular
C. epidermal
D. subcutaneous
E. hypodermal
The layer of the skin that contains the blood vessels and nerves closest to the surface of the skin is the _____ layer.

A. papillary
B. reticular
C. epidermal
D. subcutaneous
E. hypodermal
Which of the following is the correct order of events in tissue repair

A. The skin receives a cut that penetrates into the dermis and bleeding begins, epithelial regeneration is nearly complete, granulation tissue is formed, blood clotting occurs and stops the blood flow, the scar retracts, macrophages engulf and clean away cellular debris, and fibroblasts elaborate connective tissue fibers to span the break

B. The skin receives a cut that penetrates into the dermis and bleeding begins, macrophages engulf and clean away cellular debris, epithelial regeneration is nearly complete, granulation tissue is formed, blood clotting occurs and stops the blood flow, the scar retracts, and fibroblasts elaborate connective tissue fibers to span the break

C. The skin receives a cut that penetrates into the dermis and bleeding begins, granulation tissue is formed, blood clotting occurs and stops the blood flow, the scar retracts, macrophages engulf and clean away cellular debris, fibroblasts elaborate connective tissue fibers to span the break, and epithelial regeneration is nearly complete

D. The skin receives a cut that penetrates into the dermis and bleeding begins, macrophages engulf and clean away cellular debris, blood clotting occurs and stops the blood flow, the scar retracts, fibroblasts elaborate connective tissue fibers to span the break, granulation tissue is formed, and epithelial regeneration is nearly complete

E. The skin receives a cut that penetrates into the dermis and bleeding begins, blood clotting occurs and stops the blood flow, granulation tissue is formed, fibroblasts elaborate connective tissue fibers to span the break, macrophages engulf and clean away cellular debris, the scar retracts, and epithelial regeneration is nearly complete
ANSWER

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C. The skin receives a cut that penetrates into the dermis and bleeding begins, granulation tissue is formed, blood clotting occurs and stops the blood flow, the scar retracts, macrophages engulf and clean away cellular debris, fibroblasts elaborate connective tissue fibers to span the break, and epithelial regeneration is nearly complete

D. The skin receives a cut that penetrates into the dermis and bleeding begins, macrophages engulf and clean away cellular debris, blood clotting occurs and stops the blood flow, the scar retracts, fibroblasts elaborate connective tissue fibers to span the break, granulation tissue is formed, and epithelial regeneration is nearly complete

E. The skin receives a cut that penetrates into the dermis and bleeding begins, blood clotting occurs and stops the blood flow, granulation tissue is formed, fibroblasts elaborate connective tissue fibers to span the break, macrophages engulf and clean away cellular debris, the scar retracts, and epithelial regeneration is nearly complete
Why would an elderly person be more prone to skin infections than a younger person?

A. Skin repairs take longer in the elderly.
B. The epidermis is thinner in the elderly.
C. There are fewer Langerhans cells in the skin of the elderly.
D. all of the above
E. A and C only
ANSWER

Why would an elderly person be more prone to skin infections than a younger person?

A. Skin repairs take longer in the elderly.
B. The epidermis is thinner in the elderly.
C. There are fewer Langerhans cells in the skin of the elderly.
D. all of the above
E. A and C only
A surgeon, who is about to make a surgical incision that has minimal scaring, wants to cut
A. Across the lines of cleavage
B. Parallel to the lines of cleavage
C. Across the flexure lines
D. Parallel to the flexure lines
E. It does not matter since all incisions scar
A surgeon, who is about to make a surgical incision that has minimal scaring, wants to cut

A. Across the lines of cleavage
B. **Parallel to the lines of cleavage**
C. Across the flexure lines
D. Parallel to the flexure lines
E. It does not matter since all incisions scar
The layer of the skin that contains bundles of collagen fibers and the protein elastin and is responsible for the strength of the skin is the _____ layer.

A. papillary
B. reticular
C. epidermal
D. subcutaneous
E. hypodermal
ANSWER

- The layer of the skin that contains bundles of collagen fibers and the protein elastin and is responsible for the strength of the skin is the _____ layer.
  
  A. papillary
  B. reticular
  C. epidermal
  D. subcutaneous
  E. hypodermal
The stratum basale contains
A. Stem cells of keratinocytes
B. Many blood vessels
C. Eccrine sweat glands
D. Hair follicles
E. Both A and B are correct
ANSWER

The stratum basale contains

A. Stem cells of keratinocytes
B. Many blood vessels
C. Eccrine sweat glands
D. Hair follicles
E. Both A and B are correct
Which of the following happens if body temperature rises above normal?

A. Circulation in the skin decreases.
B. Sweat gland activity decreases.
C. Evaporative cooling stops.
D. Blood flow to the skin increases.
E. The activity of melanocytes increases.
Which of the following happens if body temperature rises above normal?

A. Circulation in the skin decreases.
B. Sweat gland activity decreases.
C. Evaporative cooling stops.
D. **Blood flow to the skin increases.**
E. The activity of melanocytes increases.
Charlie is badly burned in an accident. When he reaches the emergency room, the examining physician finds that he can remove entire hair follicles from Charlie’s arm when he gently pulls on the hair with his forceps. While doing this, Charlie feels no pain. Charlie is suffering from a

A. First degree burn
B. Second degree burn
C. Third degree burn
D. Partial thickness burn
E. Epidermal burn
ANSWER

Charlie is badly burned in an accident. When he reaches the emergency room, the examining physician finds that he can remove entire hair follicles from Charlie’s arm when he gently pulls on the hair with his forceps. While doing this, Charlie feels no pain. Charlie is suffering from a

A. First degree burn
B. Second degree burn
C. **Third degree burn**
D. Partial thickness burn
E. Epidermal burn
Which of the following is most superficial

A. Stratum basale
B. Papillary region of the dermis
C. Hypodermis
D. Stratum granulosum
E. Stratum corneum
Which of the following is most superficial

A. Stratum basale
B. Papillary region of the dermis
C. Hypodermis
D. Stratum granulosum
E. Stratum corneum
Variations in hair color reflect differences in the pigment produced by
A. keratinocytes.
B. melanocytes.
C. dermal papillae.
D. soft keratin.
E. carotene cells.
Variations in hair color reflect differences in the pigment produced by

A. keratinocytes.

B. melanocytes.

C. dermal papillae.

D. soft keratin.

E. carotene cells.
Malignant melanomas are extremely dangerous and life threatening because

A. They develop in the basale layer of the epidermis
B. They form tumors which interfere with circulation
C. They develop in the squamous keratinocytes of the stratum spinosum when exposed to ultraviolet radiation
D. The melanocytes grow rapidly and metastasize quickly through the lymphatic system
Malignant melanomas are extremely dangerous and life threatening because

A. They develop in the basale layer of the epidermis
B. They form tumors which interfere with circulation
C. They develop in the squamous keratinocytes of the stratum spinosum when exposed to ultraviolet radiation
D. The melanocytes grow rapidly and metastasize quickly through the lymphatic system
The layer of skin that is made up of dense irregular connective tissue is the

A. Reticular layer
B. Papillary layer
C. Hypodermis
D. Epidermis
E. Stratum basale
ANSWER

- The layer of skin that is made up of dense irregular connective tissue is the
  
  A. Reticular layer
  B. Papillary layer
  C. Hypodermis
  D. Epidermis
  E. Stratum basale
The epidermis is made up of
A. Dense regular connective tissue
B. Stratified squamous epithelium
C. Areolar connective tissue
D. Smooth muscle
E. All of the above are correct
The epidermis is made up of
A. Dense regular connective tissue
B. **Stratified squamous epithelium**
C. Areolar connective tissue
D. Smooth muscle
E. All of the above are correct

**ANSWER**
Glands that discharge an oily secretion into hair follicles are _____ glands.

A. ceruminous
B. apocrine sweat
C. merocrine sweat
D. sebaceous
E. mammary
Glands that discharge an oily secretion into hair follicles are _____ glands.

A. ceruminous
B. apocrine sweat
C. merocrine sweat
D. sebaceous
E. mammary
“Goosebumps” occur due to

A. Over-stimulation of secretion from sudoriferous glands
B. Over-stimulation of secretion from sebaceous glands
C. Separation of the epidermis from the dermis
D. Vasodilation of blood vessels in the skin
E. Contraction of arrector pili muscles as they raise hairs into an upright position
ANSWER

“Goosebumps” occur due to

A. Over-stimulation of secretion from sudoriferous glands
B. Over-stimulation of secretion from sebaceous glands
C. Separation of the epidermis from the dermis
D. Vasodilation of blood vessels in the skin
E. Contraction of arrector pili muscles as they raise hairs into an upright position
The outermost layer of the epidermis is the
A. Stratum lucidum
B. Reticular layer
C. Stratum corneum
D. Superficial fascia
E. Stratum basale
The outermost layer of the epidermis is the
A. Stratum lucidum
B. Reticular layer
C. **Stratum corneum**
D. Superificial fascia
E. Stratum basale
The protein that permits stretching and recoiling of the skin is
A. collagen.
B. melanin.
C. keratin.
D. elastin.
E. carotene.
The protein that permits stretching and recoiling of the skin is

A. collagen.
B. melanin.
C. keratin.
D. elastin.
E. carotene.
Sweat is produced by
A. Keratinocytes
B. Melanocytes
C. Ceruminous glands
D. Sudoriferous glands
E. Sebaceous glands
ANSWER

➢ Sweat is produced by
  A. Keratinocytes
  B. Melanocytes
  C. Ceruminous glands
  D. Sudoriferous glands
  E. Sebaceous glands
Most body odor is the result of bacterial metabolism of the secretions produced by _____ glands.

A. ceruminous
B. apocrine sweat
C. merocrine sweat
D. sebaceous
E. mammary
Most body odor is the result of bacterial metabolism of the secretions produced by ______ glands.

A. ceruminous
B. **apocrine sweat**
C. merocrine sweat
D. sebaceous
E. mammary
Which of the following is present in thick skin only

A. Stratum granulosum
B. Stratum lucidum
C. Stratum corneum
D. Stratum spinosum
E. Dermal papillae
Which of the following is present in thick skin only

A. Stratum granulosum
B. **Stratum lucidum**
C. Stratum corneum
D. Stratum spinosum
E. Dermal papillae
The function of melanin is to
A. Make skin tough and waterproof
B. Connect the epidermis to the dermis
C. Provide flexibility to skin
D. Provide nutrients to dying epidermal cells
E. Protect skin from ultraviolet light
The function of melanin is to
A. Make skin tough and waterproof
B. Connect the epidermis to the dermis
C. Provide flexibility to skin
D. Provide nutrients to dying epidermal cells
E. Protect skin from ultraviolet light
Hair and nails are modifications of the

A. Melanocytes
B. Hypodermis
C. Sudoriferous glands
D. Epidermis
E. Dermis
Hair and nails are modifications of the

A. Melanocytes
B. Hypodermis
C. Sudoriferous glands
D. Epidermis
E. Dermis
Mammary glands are a type of ______ gland.

A. sebaceous
B. apocrine sweat
C. merocrine sweat
D. ceruminous
E. eccrine sweat
Mammary glands are a type of apocrine sweat gland.

A. sebaceous
B. apocrine sweat
C. merocrine sweat
D. ceruminous
E. eccrine sweat
The primary pigments contained in the epidermis are

A. carotene and xanthophyll.
B. carotene and melanin.
C. melanin and chlorophyll.
D. xanthophyll and melanin.
E. none of the above
The primary pigments contained in the epidermis are

A. carotene and xanthophyll.
B. carotene and melanin.
C. melanin and chlorophyll.
D. xanthophyll and melanin.
E. none of the above
Bleeding from a paper cut is most likely due to damage of the

A. Cutaneous plexus
B. Papillary plexus
C. Reticular plexus
D. Dermal papillae
E. Merkel discs
ANSWER

- Bleeding from a paper cut is most likely due to damage of the

A. Cutaneous plexus

B. Papillary plexus

C. Reticular plexus

D. Dermal papillae

E. Merkel discs
The stratum corneum is
A. The innermost layer of the epidermis
B. Highly vascularized
C. Made up of dead cells
D. Seen only in the palms and soles
E. The layer in which keratin begins to form
The stratum corneum is

A. The innermost layer of the epidermis
B. Highly vascularized
C. Made up of dead cells
D. Seen only in the palms and soles
E. The layer in which keratin begins to form
A condition in which abnormal keratin is produced and keratinocytes are shed prematurely is
A. Psoriasis
B. Malignant melanoma
C. Albinism
D. Alopecia
E. Acne
ANSWER

- A condition in which abnormal keratin is produced and keratinocytes are shed prematurely is:
  A. Psoriasis
  B. Malignant melanoma
  C. Albinism
  D. Alopecia
  E. Acne
The layer of the skin that provides protection against bacteria as well as chemical and mechanical injuries is the

A. dermis.
B. subcutaneous layer.
C. epidermis.
D. stratum corneum.
E. sebum layer.
The layer of the skin that provides protection against bacteria as well as chemical and mechanical injuries is the
A. dermis.
B. subcutaneous layer.
C. epidermis.
D. stratum corneum.
E. sebum layer.
Just beneath the stratum basale of the epidermis is the
A. Stratum corneum of the epidermis
B. Hypodermis
C. Reticular layer of the dermis
D. Papillary regions of the dermis
E. Skeletal muscle
ANSWER

➢ Just beneath the stratum basale of the epidermis is the
   A. Stratum corneum of the epidermis
   B. Hypodermis
   C. Reticular layer of the dermis
   D. Papillary regions of the dermis
   E. Skeletal muscle
The layer whose primary functions include acting as a blood reservoir, an insulator and a shock absorber is the

A. Reticular layer
B. Papillary layer
C. Epidermis
D. Superficial fascia
E. Hyperdermis
The layer whose primary functions include acting as a blood reservoir, an insulator and a shock absorber is the

A. Reticular layer
B. Papillary layer
C. Epidermis
D. Superficial fascia
E. Hyperdermis
Nutrients reach the epidermis through the process of
A. Absorbing materials applied to the surface of the skin
B. Utilizing the products of merocrine glands
C. The epidermis does not require nutrients because the superficial layer of cells are dead
D. Diffusing through the tissue fluid from blood vessels in the dermis
ANSWER

❖ Nutrients reach the epidermis through the process of
  A. Absorbing materials applied to the surface of the skin
  B. Utilizing the products of merocrine glands
  C. The epidermis does not require nutrients because the superficial layer of cells are dead
  D. **Diffusing through the tissue fluid from blood vessels in the dermis**
The papillary region of the dermis consists mostly of

A. Areolar connective tissue
B. Adipose tissue
C. Smooth muscle
D. Stratified squamous epithelium
E. Dense irregular connective tissue
The papillary region of the dermis consists mostly of

A. Areolar connective tissue
B. Adipose tissue
C. Smooth muscle
D. Stratified squamous epithelium
E. Dense irregular connective tissue
Dark-skinned individuals actually have greater numbers of melanocytes.

A. True
B. False
ANSWER

Dark-skinned individuals actually have greater numbers of melanocytes.

A. True
B. False
In an extensive wound, _____ divide producing mobile cells that invade the deeper areas of the injury.

A. granulation cells
B. Langerhans cells
C. blood cells
D. fibroblasts
E. scab cells
In an extensive wound, _____ divide producing mobile cells that invade the deeper areas of the injury.

A. granulation cells  
B. Langerhans cells  
C. blood cells  
D. fibroblasts  
E. scab cells
Differences in skin color between individuals and races reflect distinct
A. Numbers of melanocytes
B. Melanocyte distribution patterns
C. Levels of melanin synthesis
D. UV responses and mitotic activity
Differences in skin color between individuals and races reflect distinct

A. Numbers of melanocytes
B. Melanocyte distribution patterns
C. Levels of melanin synthesis
D. UV responses and mitotic activity
Characteristics of the epidermis include:

A. multilayered.
B. flexible.
C. self-repairing.
D. serving as UV radiation protection.
E. all of the above
Characteristics of the epidermis include:

A. multilayered.
B. flexible.
C. self-repairing.
D. serving as UV radiation protection.
E. all of the above.
The reticular layer of the dermis consists mostly of
A. Areolar connective tissue
B. Adipose tissue
C. Smooth muscle
D. Stratified squamous epithelium
E. Dense irregular connective tissue
The reticular layer of the dermis consists mostly of:

A. Areolar connective tissue
B. Adipose tissue
C. Smooth muscle
D. Stratified squamous epithelium
E. Dense irregular connective tissue
Fat storage is an important function of the
A. Epidermis
B. Papillary region of the dermis
C. Reticular region of the dermis
D. Subcutaneous layer
E. All of the above
Fat storage is an important function of the

A. Epidermis
B. Papillary region of the dermis
C. Reticular region of the dermis
D. Subcutaneous layer
E. All of the above
The repair of the dermis begins as fibroblasts produce

A. elastic fibers.
B. collagen fibers.
C. reticular fibers.
D. dense connective tissue.
E. perichondrium.
The repair of the dermis begins as fibroblasts produce

A. elastic fibers.
B. **collagen fibers.**
C. reticular fibers.
D. dense connective tissue.
E. perichondrium.
Types of skin cancers include
A. squamous cell carcinoma.
B. malignant melanoma.
C. basal cell carcinoma.
D. actinic keratosis.
E. A, B, and C
Types of skin cancers include
A. squamous cell carcinoma.
B. malignant melanoma.
C. basal cell carcinoma.
D. actinic keratosis.
E. A, B, and C
An albino, who has no melanin, may still have a yellow-orange tint to his skin due to

A. Carotene
B. Vitamin D3
C. Basale cells
D. Granulocytes
E. Retinal
ANSWER

- An albino, who has no melanin, may still have a yellow-orange tint to his skin due to
  
  A. Carotene
  B. Vitamin D3
  C. Basale cells
  D. Granulocytes
  E. Retinal
Tyrosinase is required for the production of

A. Keratin
B. Melanin
C. Cerumin
D. Sebum
E. Apocrine sweat
Tyrosinase is required for the production of

A. Keratin

B. **Melanin**

C. Cerumin

D. Sebum

E. Apocrine sweat
Cyanosis is indicated by
A. a reddish skin coloration.
B. a yellowish skin coloration.
C. an orange skin coloration.
D. a bluish skin coloration.
E. a brown skin coloration.
ANSWER

- Cyanosis is indicated by
  A. a reddish skin coloration.
  B. a yellowish skin coloration.
  C. an orange skin coloration.
  D. **a bluish skin coloration.**
  E. a brown skin coloration.
Hair matrix cells are inactive and the follicle atrophies during which stage

A. Growth stage
B. Resting stage
C. Rogaine stage
D. Dermal stage
E. Clairol stage
Hair matrix cells are inactive and the follicle atrophies during which stage

A. Growth stage

B. Resting stage

C. Rogaine stage

D. Dermal stage

E. Clairol stage
The effects of aging on the skin include
A. a decline in the activity of sebaceous glands.
B. increased production of vitamin D.
C. thickening of the epidermis.
D. an increased blood supply to the dermis.
E. an increased number of sweat glands.
The effects of aging on the skin include
A. a decline in the activity of sebaceous glands.
B. increased production of vitamin D.
C. thickening of the epidermis.
D. an increased blood supply to the dermis.
E. an increased number of sweat glands.
Synthesis of vitamin D begins with the activation of a precursor molecule in the skin by

A. Melanin
B. Keratin
C. Sebum
D. UV light
E. Temperatures above 60 degrees F in the external environment
Synthesis of vitamin D begins with the activation of a precursor molecule in the skin by

A. Melanin
B. Keratin
C. Sebum
D. UV light
E. Temperatures above 60 degrees F in the external environment
Albinism results from

A. Liver disease
B. Low oxygen levels in the blood
C. Lack of the enzyme tyrosinase
D. Too little exposure to sunlight
E. Viral infection
Albinism results from:

A. Liver disease
B. Low oxygen levels in the blood
C. Lack of the enzyme tyrosinase
D. Too little exposure to sunlight
E. Viral infection
A suntan actually results from

A. increased melanin production.
B. increased melanocyte production.
C. burned skin.
D. decreased keratin production.
E. increased carotene production.
A suntan actually results from

A. increased melanin production.
B. increased melanocyte production.
C. burned skin.
D. decreased keratin production.
E. increased carotene production.
Enzymatic activity within melanosomes is increased by

A. Apoptosis of epidermal cells
B. Environmental temperatures above normal body temperature
C. Increased activity of sweat glands
D. Tension on desmosomes
E. Exposure to UV light
ANSWER

- Enzymatic activity within melanosomes is increased by
  A. Apoptosis of epidermal cells
  B. Environmental temperatures above normal body temperature
  C. Increased activity of sweat glands
  D. Tension on desmosomes
  E. Exposure to UV light
Which of the following statements best describes what fingernails actually are?

A. A modification of the epidermis
B. Are identical to hair but contain ten times as much keratin
C. Are extensions of the carpal bones
D. Have nothing to do with skin
Which of the following statements best describes what fingernails actually are:

A. A modification of the epidermis
B. Are identical to hair but contain ten times as much keratin
C. Are extensions of the carpal bones
D. Have nothing to do with skin
Cyanosis is indicative of

A. Lack of tyrosinase
B. Liver disease
C. Inflammation
D. Insufficient oxygen in blood
E. Patchy loss of melanocytes
ANSWER

- Cyanosis is indicative of
  
  A. Lack of tyrosinase
  B. Liver disease
  C. Inflammation
  **D. Insufficient oxygen in blood**
  E. Patchy loss of melanocytes
Sebaceous glands usually secrete their products into the
A. Blood
B. Necks of hair follicles
C. Peaks of epidermal ridges
D. Melanosomes
E. External auditory canal
Sebaceous glands usually secrete their products into the

A. Blood
B. Necks of hair follicles
C. Peaks of epidermal ridges
D. Melanosomes
E. External auditory canal
Inadequate exposure to sunlight could result in decreased amounts of vitamin \underline{_____} in the body.

A. A
B. $B_{12}$
C. C
D. D
E. E
ANSWER

- Inadequate exposure to sunlight could result in decreased amounts of vitamin _____ in the body.

A. A
B. B_{12}
C. C
D. D
E. E