Integumentary Extra Credit Worksheet – Chapter 5.

There are three major layers of skin:

The top layer is made up of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ tissue and is called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The middle layer is made of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_tissue and is called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The bottom layer is made of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ tissue and is called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Label the diagram below:

What four cells types can be found in the epidermis? Briefly describe their function.

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_:

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_:

3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_:

4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_:

The epidermis is made up of 5 distinct layers. Label the 4 layers in the diagram below and describe what is going on at each level.



Which layer is missing? Why?

The dermis is composed of two layers: the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ layer is a thin layer named for its wavy shape and is composed mainly of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ connective tissue. The shape of this layer produces \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on our fingertips used for \_\_\_\_\_\_ and leaves finger prints.

The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is bigger and is mainly composed of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ connective tissue. It contains many structures including \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The orientation of collagen in the dermis produces \_\_\_\_\_\_\_\_\_\_\_\_ lines on your body which surgeons use to make incisions because they will \_\_\_\_\_\_\_\_\_\_ better.

The hypodermis is composed mainly of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ connective tissue which has three general functions: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

There are three pigments that contribute to skin color, list them, their colors and the cells where they are found:

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_:

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_:

3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_:

Briefly describe the mechanism through which melanin is spread through the skin. Be sure to include the layers of epidermis involved and how the melanin protects the cells:

List 7 abnormal skin colors and their causes:

|  |  |
| --- | --- |
| **Abnormal Color** | **Cause** |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

Sweat glands are also known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ glands.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ glands secrete watery sweat, especially on the forehead, palms and soles through ducts onto the skin surface which helps \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the skin during exercise.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ glands produce sebum in the armpits and groin through ducts connected to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Sebum is a mixture of sweat plus \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ which, when broken down by bacteria, produces odor. It is thought this odor may have a role in \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Ceruminous glands produce \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ glands produce oil on the face and scalp to soften hair. They become active at \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and if they become inflamed lead to the condition known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Hair has three functions:

1. Nerve cells connected to the hair detect \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

2. Arrector pili muscle (smooth muscle) creates \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ which are thought to create a warm layer next to the skin to reduce \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

3. Hair protects the skin from heat loss and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Label the diagram below:



Define the following terms:

1. Hair Shaft:

2. Hair root:

3. Medulla:

4. Cortex:

5. Cuticle:

6. Follicle:

7. Hair papilla:

Hair is made by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ET and is colored by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

When a hair is circular it grows \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, when oval it grows \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The pale, fine body hair on children and adults is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The coarse dark hair formed after puberty is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and is located in the \_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_ &\_\_\_\_\_\_\_\_\_\_\_.

 During the growth phase for a single scalp hair it grows about \_\_\_ mm/week for \_\_\_\_\_\_ years. During the regressive phase the follicle \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the hair \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. After the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ phase, the follicle begins to grow hair again.

Explain why the growth phase is only 2 weeks for eyebrows:

The term for hair thinning is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and can be the result of age over \_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or genetic disorders.

Male pattern baldness is cause by a combination of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_. Specifically, high levels of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is damaging to hair follicles over time.

Nails are made by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ET, the same as hair but contains more \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ protein.

In the nails, the cuticle is known as the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the quick is called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The skin has 6 different functions. In the space below, name the functions and briefly describe how the skin accomplishes each function.

1.

2.

3.

4.

5.

6.

Below are three images. Label each one and next to it briefly describe the stage of healing and what is happening (These stages can be found in chapter 4).





How does sun exposure cause skin cancer?

Define the following

Neoplasm:

Benign:

Malignant:

Metastasis:

Secondary Tumor:

Basal cell carcinomas originate in the Stratum \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the epidermis and invade the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, however they rarely \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Squamous cell carcinomas originate in the Stratum \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and are commonly found in the \_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. They are often successfully treated with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ before metastasis.

Malignant melanomas are tumors of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cells and are highly \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and resistant to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The ABCD rule helps you to distinguish malignant melanomas from common moles. For each letter below, write the corresponding term and describe what you would be looking for.

A.

B.

C.

D.

Burns can be caused by \_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, or anything that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ proteins.

The rule of 9s is useful for describing the severity of burns. Label then write the correct percentage of the body over each region.

Anterior and posterior head & neck =

Anterior and posterior upper limbs =

Anterior and posterior trunk =

Anterior and posterior lower limbs =

Perineum = \_\_\_\_\_\_\_\_\_\_

 Total

A first degree burn involves damage to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ layer of the skin.

A second degree burn involves damage to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ layer of the skin.

A third degree burn involves damage to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ layer of the skin

Burns are considered critical if: >25 % of the body has \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ degree burns

 >10% of the body has \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ degree burns

 The face, hands or feet have \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ degree burns.

What are two significant complications with burns and why?