

INTEGUMENTARY SYSTEM: PIGMENTATION

HS1

DHO8 pg. 158

Obj. 2: Discuss the structures and functions of the integumentary system.

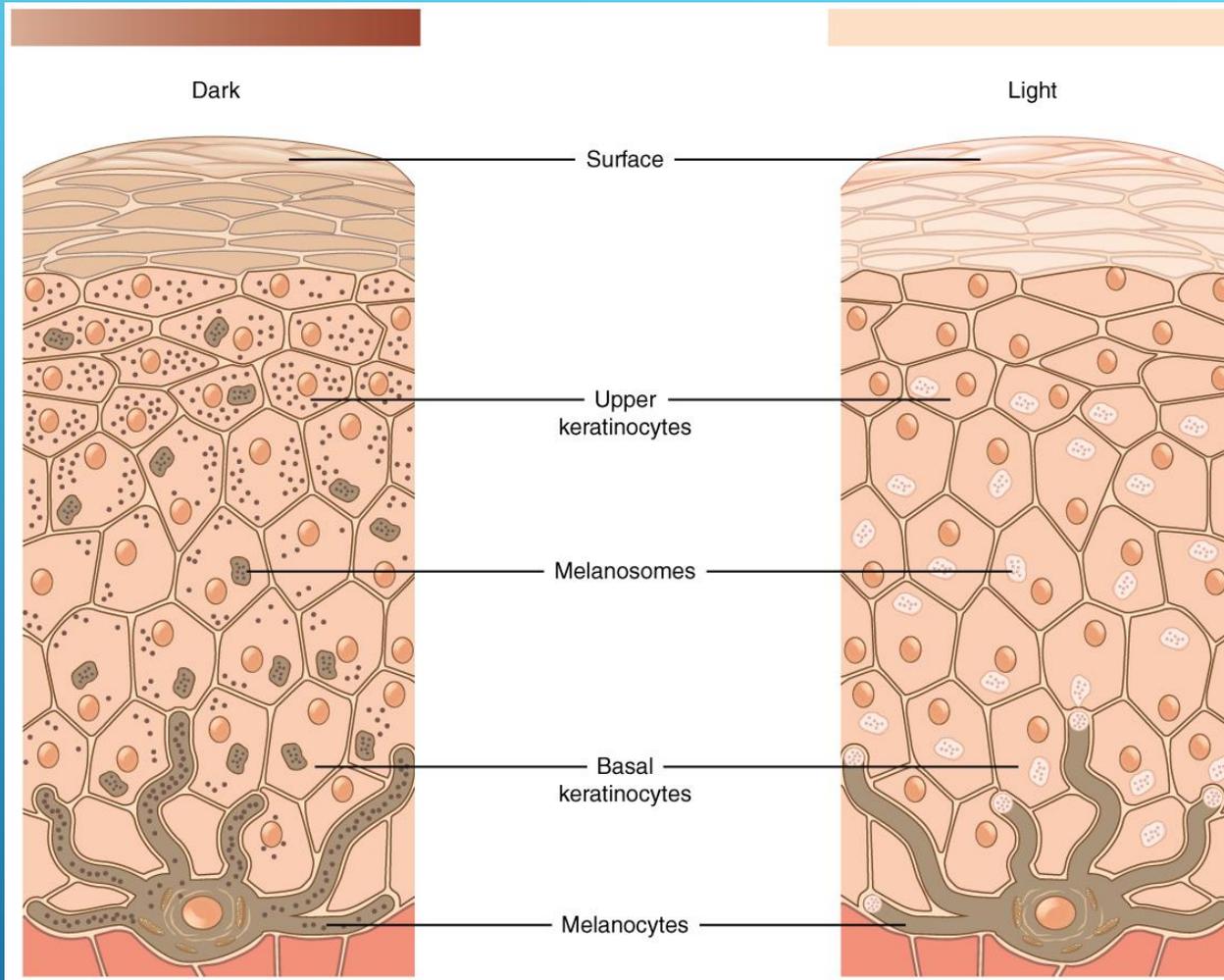
b. Discuss the concept of pigmentation.

Skin color is inherited and determined by pigments in the skin

- Melanin-brownish black pigment produced in the epidermis by specialized cells called melanocytes.

BASICS OF SKIN COLOR

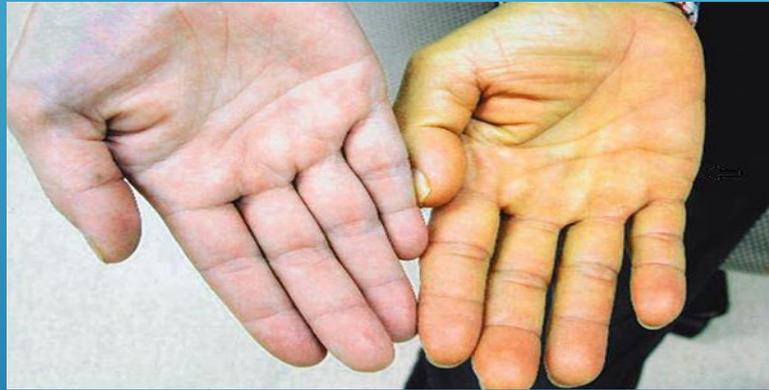
A decorative graphic consisting of several parallel white lines of varying lengths, slanted diagonally from the bottom right towards the top right, set against a blue background.



- ▶ Everyone has the same number of melanocytes, but genes present in each racial group determine the amount of melanin produced
- ▶ Melanin can lead to black, brown, or yellow skin tint depending on amount of melanin present and racial origin.
- ▶ UV light activates the melanin to produce more melanin to protect and tan the skin. Small concentrated areas of melanin = freckles

BASICS OF SKIN COLOR

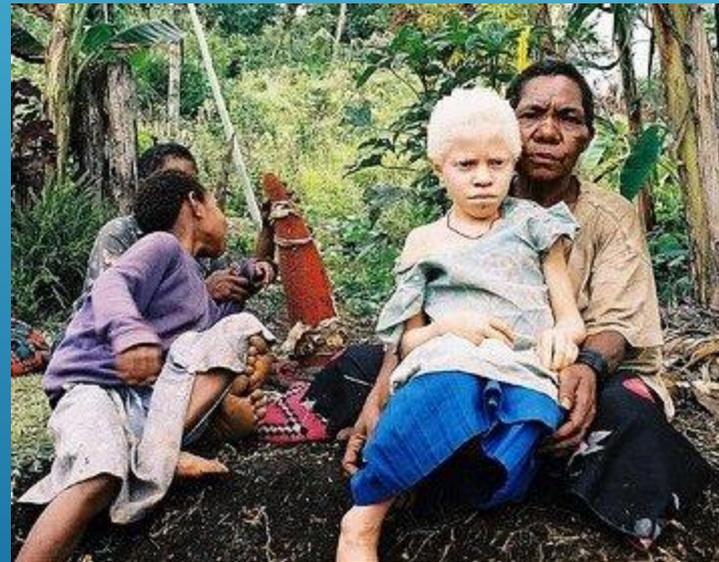
- ▶ Carotene – yellowish red pigment that also helps determine skin color.



BASICS OF SKIN COLOR

- ▶ **Albino** – absence of color pigments
- ▶ Albinos have a pinkish skin tint, hair is pale yellow or white, eyes also lack pigment and are red and very sensitive to light.

Albino girl from Papua New Guinea



BASICS OF SKIN COLOR

▶ When compared to someone with very light skin, a person with dark skin has more:

A) Melanin.

B) Melanocytes.

C) Vitamin D.

D) Vitamin C.

And the answer is....A

DO YOU KNOW?



▶ What causes the pinkish tint in an albino's skin?

A) Melanin

B) Carotene

C) Blood vessels

D) Jaundice

And the answer is C

DO YOU KNOW?

▶ Margie has always had white spots on her arm. They are *MOST LIKELY* caused by

- A) Albino disorder.
- B) Hives.
- C) Calcium deficiency.
- D) A lack of melanin.

And the answer is....D

DO YOU KNOW?

ABNORMAL COLORS OF THE SKIN CAN INDICATE DISEASE:

Erythema – reddish color caused by either burns or a congestion of blood in the vessels



ABNORMAL COLOR OF SKIN CAN INDICATE DISEASE:

Jaundice – yellow discoloration, can indicate bile in the blood as a result of liver or gallbladder disease. Also occurs in conjunction with certain diseases that involve the destruction of RBC



ABNORMAL COLOR OF SKIN CAN INDICATE DISEASE:

Cyanosis – bluish discoloration caused by insufficient O₂, associated with heart, lung, and circulatory problems.



ABNORMAL COLOR OF THE SKIN CAN INDICATE DISEASE:

Chronic poisoning may cause gray or brown skin discoloration

Silver poisoning and arsenic poisoning



▶ A lack of oxygen supply to the skin can cause the skin to become:

A) Cyanotic.

B) Jaundiced.

C) White.

D) Red

And the answer is...A

DO YOU KNOW?



▶ A new father describes his baby as looking like a “pumpkin.” The baby is MOST LIKELY:

- A) Cyanotic.
- B) Jaundiced.
- C) Flushed.
- D) An albino.

And the answer is...B

DO YOU KNOW?