

Resource #1

1. What are some traits that people share?

Males and females have similar sexual characteristics with others of their gender. Relatives share similarities in appearance due to their common genetic make up. People with ancestors from the same regions of the world often share similar physical characteristics like skin, hair color, facial characteristics, body shape, and stature.

2. Besides genetics, what other factors can affect a person's appearance and growth?

Exposure to ultraviolet rays (UV) can darken or tan a person's skin. Height and weight can be affected by the quality of the person's diet; if a person does not have a sufficient caloric intake, they will not grow and develop to their full, genetically-determined potential.

3. Why do sub-Saharan Africans have the same dark skin color as many people in places like southern Asia and Australia?

Environmental factors, as well as genetics, determine natural selection for skin color. That is why people in Africa can share the same skin color as those in other similar regions of the world.

4. How has racial classification been used in North America?

Based on skin color and differences in physical characteristics, racial labels like Black, White, Asian, and Latino have been used for categorizing and discriminating. They have been important to contemporary life in North America because they reflect culturally defined differences in our society.

5. Why isn't skin color a good way to classify people?

This division of people into separate races based on skin color and physical differences has no basis in biological reality, since these characteristics can be influenced and passed on in response to environmental adaptation.

Resource #2**1. How does melanin determine skin color?**

There are two types of melanin: (a) pheomelanin, which is red to yellow in color and is produced by those with light complexions, and eumelanin, which is dark to black in color and is produced by those with dark-colored skin. People also differ in the number and size of their melanin particles, which are very important in determining skin color. For those with lighter skin, color can be affected by red cells in blood flowing close to the skin.

2. How does melanin typically respond to ultraviolet radiation?

Melanin serves as a shield against UV exposure, which comes in the form of a tan that occurs when melanin pigments enlarge in response to UV radiation. By doing this, the skin helps to prevent sunburn damage, which can lead to cancerous melanoma.

3. Besides melanoma, what other conditions does melanin shield against?

Melanin production helps the body maintain healthy folic-acid levels, which can be depleted with too much exposure to ultraviolet radiation. This can lead to anemia, neural tube defects in pregnant women, and decreased sperm production.

4. Why is some shortwave ultraviolet radiation (UVB) exposure important?

A little UV exposure is important because it helps the skin produce Vitamin D, which helps the intestines absorb calcium and phosphorus from food for bone growth and repair, and contributes to many other critical body functions.

5. Historically, in what regions of the world have dark- and light-skinned people lived?

The majority of dark pigmented people lived within 20° of the equator. Most of the lighter pigmented people lived in the northern hemisphere north of 20° latitude.

Resource #3**1. How does the process of natural selection influence skin color?**

Jablonski and Chaplin concluded that modern humans most likely evolved in the tropics, where they were exposed to high UV levels. But as they moved into regions away from the equator, where UV levels are lower, those with fairer skin were able to absorb enough UV radiation to produce vitamin D, the "sunshine vitamin." This gave them a survival advantage and their population increased due to natural selection.

2. In what way do Jablonski and Chaplin see skin color as "a balancing act"?

Skin color, according to Jablonski and Chaplin, basically is a balancing act between the evolutionary demands of photo-protection and the need to create vitamin D in the skin.

3. What is unique about the Eskimos of Alaska in terms of skin color?

According to Jablonski and Chaplin's theory, the dark-skinned Eskimos of Alaska should have very pale skin, since this northern region does not receive much UV radiation. One of the reasons they don't is that they have not lived in the region very long in terms of geological time. But more importantly, their traditional diet is rich in fish and other seafood, which are high in vitamin D, so they haven't had to undergo the same reduction in pigmentation that would otherwise be required at such high latitudes.

4. Are dark-skinned people at an advantage or disadvantage in northern latitudes? Why?

They are at a disadvantage because many end up suffering from vitamin D deficiencies because their dark skin serves as natural sunscreen that won't allow them to synthesize enough vitamin D from the sunlight.

5 What do Jablonski and Chaplin's findings suggest about the concept of race?

Their work underscores the concept of race as purely a social construct, with no scientific basis. DNA research has shown that genetically all humans, regardless of skin color and other surface distinctions, are basically the same.

6 What impact has the idea of race had on society? What changes do you think are necessary?

Our and many other societies have developed elaborate systems of privilege and control based on perceived racial differences. Jablonski and Chaplin's findings suggest that skin color doesn't merit a social stigma and should help offset racism and bigotry.