Chemistry

Class-VI

Chapter-6

Sensory Organs

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Worksheet-5

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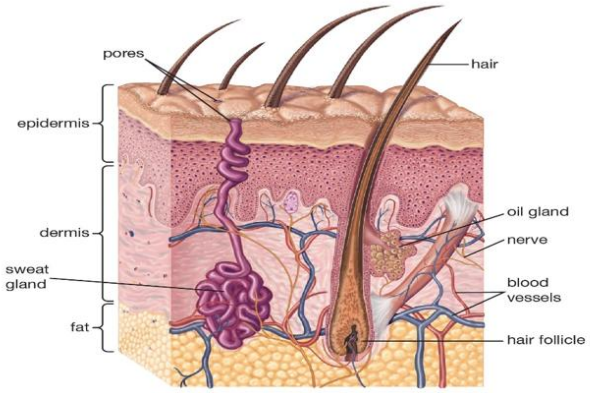
Topic- Skin and skincare

Unit-1: Layers of skin

The skin is the largest organ of the body. The skin protects us from microbes and the elements, helps regulate body temperature, and permits the sensations of touch, heat, and cold.



Skin has three layers:

Epidermis:

- The epidermis, the outermost layer of skin, provides a waterproof barrier and creates our skin tone.
- The skin's colour is created by special cells called melanocytes, which produce the pigment melanin. Melanocytes are located in the epidermis.
- The bulk of epidermis is made up of one type of cells called keratinocytes which make tough, fibrous protein keratin. The keratin gives structure, durability and waterproofing to our hair, nail and skin.
- These cells are constantly dying and being replaced by new cells in every four or six weeks.

- Another epidermal cells are melanocytes and it synthesize melanin, the pigment gives skin its tone. The more the melanin the darker the clour of skin.
- Melanin also helps to protect skin from harmful sunrays.
- It has no blood vessel, only has small pours and hair on surface.

Dermis:

- The dermis, beneath the epidermis, contains tough connective tissue, hair follicles, and sweat glands.
- The sweat glands are highly coiled glands where the sweat is generated and found in the deeper layer of dermis. The sweat glands open on the surface through a long duct with small opening called sweat pour. Sweat pour secretes sweat under hot condition and helps to regulate our body temperature.
- Dermis contains a network of blood vessel which provide the skin nutrients and remove waste products
- The sense of touch is controlled by a huge network of nerve endings and the touch receptors in skin.

Hypodermis:

- The deeper subcutaneous tissue(hypodermis) is made of fat and connective tissue.
- Sebaceous glands produce oil that keep the skin from drying out.

Fig-A **Fig-B**

Exercise-1:

1. Write the cause of the difference in skin tone that shown in fig-A.
2. Describe about the layers of skin with labeled picture.

Unit-2:

The skin has three main functions: protection, regulation and sensation. Wounding affects all the functions of the skin.

The skin is an organ of protection

The primary function of the skin is to act as a barrier. The skin provides protection from: mechanical impacts and pressure, variations in temperature, micro-organisms, radiation and chemicals.

The skin is an organ of regulation

The skin regulates several aspects of physiology, including: body temperature via sweat and hair, and changes in peripheral circulation and fluid balance via sweat. It also acts as a reservoir for the synthesis of Vitamin D.

The skin is an organ of sensation

The skin contains an extensive network of nerve cells that detect and relay changes in the environment. There are separate receptors for heat, cold, touch, and pain.

Functions of the skin

- Protection from wear and tear.
- Protection against infection and chemicals.
- Protection against ultraviolet rays.
- Maintaining body temperature.
- Response to increased temperature.
- Response to a fall in temperature.
- Receiving stimuli from the outside world.
- Absorption and excretion.

Exercise-2:

1. The skin is an organ of protection. -Explain
2. Mention the functions of skin.