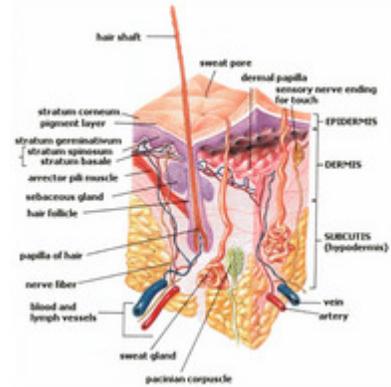


# Integumentary System

By Cindy Grigg

<sup>1</sup> Your skin is a flexible, protective organ that covers your body. An organ is a structure in an organism that is made of two or more different tissues which has a specialized function or job. If it were stretched out, an adult's skin would be about 16 square feet and weigh about 6 pounds. That's about the size of a mattress on a twin bed. Skin is the largest organ in the human body. It amounts to about 7% of your body weight. You might think your skin is just a covering, but skin has many important jobs. Your skin is also called the integumentary system.



<sup>2</sup> Just as packaging protects foods, your skin is your body's protective "wrapper." Your skin has two layers. The epidermis is the outer layer. It is about as thick as seven sheets of paper. The epidermis has some nerve cells but no blood vessels. This outer skin layer produces fingernails, toenails, and hair. The epidermis is thickest on your palms and the soles of your feet. Your eyelids have the thinnest skin layers of all. The epidermis continuously makes new skin cells to replace old ones. Old ones on the skin's surface are worn off or washed away, exposing new cells. You grow a complete new layer of skin about every twenty-seven days.

<sup>3</sup> Below the epidermis is the layer called the dermis. In the dermis layer are nerves, glands, hair follicles, and blood vessels. When you scrape your elbow or knee, the epidermis layer is rubbed off and the dermis is exposed. This is why the scrape bleeds and hurts.

<sup>4</sup> You have two kinds of glands in your skin. They are sweat glands and oil glands. Sweat glands allow perspiration to escape from the skin through pores. Sweat on the skin's surface evaporates and cools, helping to cool your whole body. This helps to regulate your body temperature. Also, water and salts are eliminated from your body. There are more than two million sweat glands in your skin.

<sup>5</sup> The oil glands produce body oil that makes your hair shiny and keeps your skin moist. Oil glands are found near hair follicles. Along the hair follicles are muscles. These muscles make your hair stand up- like when you get "goose bumps." The hairs on your arms stand up when you get cold. This helps to warm your body by trapping an insulating layer of air around your skin.

<sup>6</sup> Melanin consists of cells in the epidermis that give the skin its color. Freckles

are spots of melanin. When ultraviolet (UV) rays from the sun hit your skin, your body produces melanin. This brown substance makes your skin look "tan." People with lighter skin make less of it and so they are more likely to get a sunburn. Sunburns can damage skin cells, leading to skin cancer in later life. You should always wear a sunscreen when you're out in the sun.

<sup>7</sup> The skin protects the body by forming a barrier that keeps harmful substances and disease-causing bacteria and viruses outside the body. Skin acts like a covering to keep your body from drying out. It helps maintain a constant temperature. When you get too warm, blood vessels in the skin get bigger to allow more blood to pass through them. This allows heat to move from your body to the outside.

<sup>8</sup> Your skin gathers information about the environment. The nerves in your skin provide information about pressure, pain, and temperature. Pain messages are important because they warn you that something in your environment is hurting you.

<sup>9</sup> Some skin cells produce vitamin D when sunlight is present. Vitamin D is important for healthy bones. Vitamin D helps the cells in your digestive system to absorb the calcium in your food. Your skin cells need only a few minutes of sunlight to produce all the vitamin D you need in a day.

<sup>10</sup> Because your skin has so many important jobs, it is important for you to take care of it. Eat a variety of healthy foods. Drink plenty of water. Limit exposure to the sun. Keep your skin clean and dry. Always wear sunscreen.

Name \_\_\_\_\_

Science Pd: \_\_\_\_\_

## Integumentary System

<p>1. What is the largest organ in the human body?</p> <p><input type="radio"/> A Heart</p> <p><input type="radio"/> B Lungs</p> <p><input type="radio"/> C Kidneys</p> <p><input type="radio"/> D Skin</p>	<p>2. The epidermis and the dermis are:</p> <p><input type="radio"/> A Two kinds of cells in the skin</p> <p><input type="radio"/> B Two organs in the skin</p> <p><input type="radio"/> C The two types of skin cells</p> <p><input type="radio"/> D The two layers of skin</p>
<p>3. Blood vessels are found in which layer of the skin?</p> <p><input type="radio"/> A Follicle</p> <p><input type="radio"/> B Dermis</p> <p><input type="radio"/> C Epidermis</p> <p><input type="radio"/> D Glands</p>	<p>4. Which of these is <b>not</b> a job that your skin performs?</p> <p><input type="radio"/> A Maintains a constant temperature</p> <p><input type="radio"/> B Takes in oxygen</p> <p><input type="radio"/> C Keeps your body from drying out</p> <p><input type="radio"/> D Keeps harmful things outside the body</p>
<p>5. What kinds of glands are found in the skin?</p> <p><input type="radio"/> A Thymus and endocrine glands</p> <p><input type="radio"/> B Lymph and adrenal glands</p> <p><input type="radio"/> C Sensory and taste glands</p> <p><input type="radio"/> D Oil and sweat glands</p>	<p>6. Some skin cells produce:</p> <p><input type="radio"/> A Vitamin C</p> <p><input type="radio"/> B Vitamin K</p> <p><input type="radio"/> C Vitamin D</p> <p><input type="radio"/> D Vitamin S</p>
<p>7. How can you keep your skin healthy?</p> <p><input type="radio"/> A Keep it clean and dry</p> <p><input type="radio"/> B Eat a variety of healthy foods</p> <p><input type="radio"/> C Drink plenty of water</p> <p><input type="radio"/> D Limit exposure to the sun and wear sunscreen</p> <p><input type="radio"/> E All of the above</p>	<p>8. About how long does it take your body to grow a complete new layer of skin?</p> <p><input type="radio"/> A 14 days</p> <p><input type="radio"/> B 45 days</p> <p><input type="radio"/> C 27 days</p> <p><input type="radio"/> D 90 days</p>