

GLOSSARY

Calluses – Tough skin, usually found on feet and hands. Caused by an accumulation of skin cells as a result of friction, which stimulates cell growth.

Dermatologist – A medical doctor who specializes in the treatment of skin diseases like acne, athlete's foot and skin cancers.

Dermis – The inner layer of the skin where all of the blood vessels, glands and nerves are located.

Epidermis – The outer layer of skin. It is the first line of defense against the invasion of germs.

Follicles – Tiny cavities in the surface of the skin from which hair grows. They are found on all parts of the body, even where no hair grows.

Melanin – A natural protein that enables skin to darken when it is exposed to the sun. Dark skinned people, with racial origins in the tropics, naturally have more melanin in their bodies through heredity.

Sebaceous Glands – Located near hair follicles, these glands produce sebum.

Sebum – A lubricating oil naturally produced by the body to keep the skin moist and supple.

Ultraviolet Rays – A spectrum of high energy rays with shorter wavelengths than visible light rays. Prolonged exposure to these rays in sunlight causes sunburn, skin cancer and premature skin aging.

May be reproduced for use in the classroom.

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Show Me Science

The Wonders of Physiology

Skin – Our Largest Organ

K4588DVD

Advanced Teachers Guide

SYNOPSIS:

The skin is the largest human organ. Take a close look at the epidermis, which provides the first line of defense against the outside world and delves into the mysteries of the dermis – the inner skin. Discover how the body fights off infections and the damaging effects of the sun.

CURRICULUM UNITS:

- Anatomy
 - Biology
 - Cosmetology
 - General Science
 - Health Science
 - Microbiology
 - Physiology
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CAREER OPPORTUNITIES:

- Biologist
- Chemist
- Cosmetician
- Dermatologist
- Lab Technician
- Medical Doctor

ISSUES & CRITICAL THINKING:

After showing the video, ask your students the following:

1. Have students prepare a list of skin diseases along with a one paragraph description of the disease.
2. Invite a dermatologist to talk to the class about acne and other skin diseases.
3. Examine a strand of hair, nail clipping and/or a prepared slide of a cross section of skin under the microscope.
4. Assign teams of students to research the three major types of skin cancer – basal cell carcinoma, squamous cell carcinoma and malignant melanoma.
5. Over 80% of skin cancers occur on the face, head, neck and back of hands. Why are these parts of the body more susceptible to cancer? What can people do to reduce their risks?
6. Discuss the ozone layer and how its depletion is believed to be linked to an increase in the number of skin cancers.