

Name:

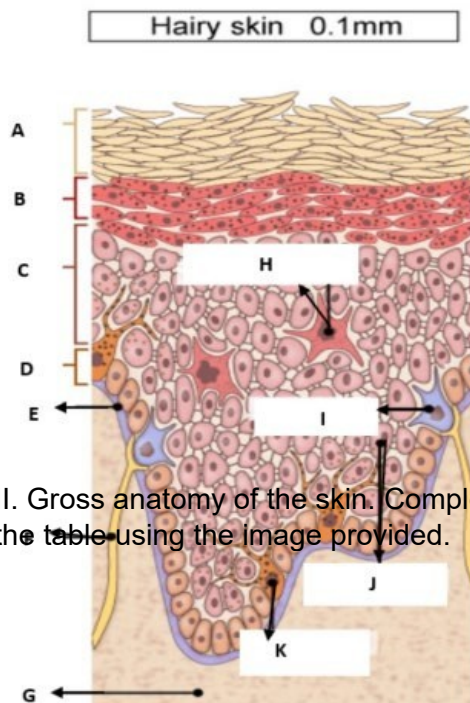
OL Lab 5: Integumentary system

Learning Objectives:

- Identify the tissue and cellular features of the skin.
- Identify the structures associated with the skin.
- Correlate the anatomical features to its functions.
- Identify the role of the skin in thermoregulation and wound healing.

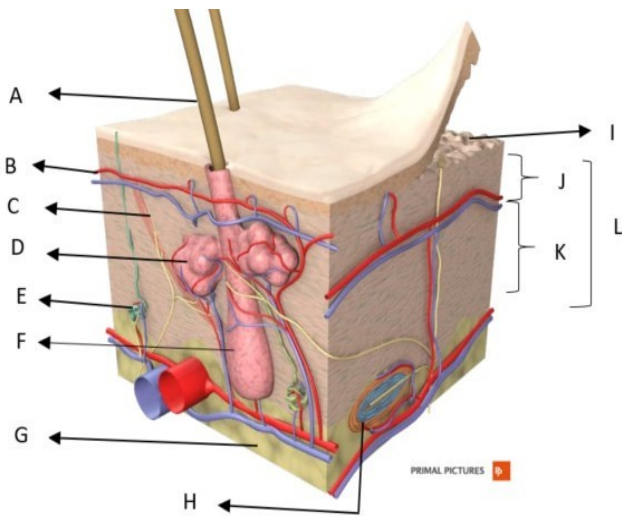
Part A: Anatomy of the skin

I. Microscopic anatomy of the skin. Complete the table using the image provided:



II. Gross anatomy of the skin. Complete the table using the image provided.

	Structure	Function
A	Stratum corneum	It consists of 20-30 layers of flat dead keratinocytes. Shields the deeper layers from injury and microbial invasion.
B	Stratum Granulosum	It consists of hairless 3-5 layers of dead keratinized cells.
C	Stratum Spinosum	It consists of numerous keratinocytes arranged in 8-10 layers, with projections of melanocytes and intraepidermal macrophages
D	Stratum Basale	Deepest later where newly produced skin cells push older ones toward the surface.
E	Basement Membrane	Provides structural support and filters cells, separating tissues and protecting them.
F	Sensory Nerve	Detects the sensation of touch.
G	Dermis	Supports and protects the skin while aiding in thermoregulation. It possesses the ability to stretch and recoil easily.
H	Intraepidermal Macrophages	They engage in immune responses to assist other immune cells in identifying and eliminating invading microbes.
I	Tactile Epithelium	It detects light touch.
J	Keratinocyte	It produces keratin, which helps restore the epidermal barrier.
K	Melanocyte	Produce melanin granules.



	Structure	Function
A	Hairs	Provide protection against external factors.
B	Blood vessels	Regulate body temperature.
C	Arrector pili muscle	Causes goosebumps and hair to rise.
D	Sebaceous gland	Produce oil.
E	Apocrine sweat gland	Secretes sweat into hair follicles in axillary and pubic regions.
F	Hair bulb	Responds to hair movement.
G	Hypodermis	Helps to insulate the body and protect underlying muscles and other tissues.
H	Lamellar Corpuscle	Assist in sensing pressure.
I	Dermal papillae	Assist with hair growth.
J	Epidermis	Protects skin and responsible for thermoregulation.
K	Reticular dermis	Skin elasticity.
L	Dermis	Supports and protects the skin and deeper layers.