

Teacher/Teacher Team:	Dr. Pani
Grade:	12
Date:	09/25-09/29/2023

Lesson Plans should be posted by 3PM each Friday.

#	Planning Question	Teacher/Teacher Team Response
1	Which state standard is your lesson progression addressing?	HAP.LS1.6 Describe the anatomical structures of the integumentary system and explain their role in the physiological processes of protection, temperature homeostasis, and sensation. HAP.LS1.7 Diagram a cross-sectional image of the skin layers identifying the microscopic components and describe the life cycle of cells that maintain these layers. *Focusing on the life cycle of cells within the skin.
2	What scientific concepts or phenomena are embedded in the state standard?	Although you may not typically think of the skin as an organ, it is in fact made of tissues that work together as a single structure to perform unique and critical functions. The skin and its accessory structures make up the integumentary system, which provides the body with overall protection. The skin is made of multiple layers of cells and tissues, which are held to underlying structures by connective tissue. The deeper layer of skin is well vascularized (has numerous blood vessels). It also has numerous sensory, and autonomic and sympathetic nerve fibers ensuring communication to and from the brain.
3	What teacher knowledge, reminders, and misconceptions are assumed in the standard?	Body piercings and tattoos are completely safe. Body modifications involve breaking the skin, and consequently, carry a risk of infection. People with tattoos are nine times more likely to be infected with the hepatitis C virus than people without tattoos. The American Red Cross prevents people from donating blood for one year after they get a tattoo, body piercing, or acupuncture treatments. • Tattoos and body piercings involve breaking the skin and therefore carry a risk of infection. • There are health risks associated with body piercings and tattoos. Anyone considering undergoing these procedures should first research them, be aware of the health risks, find a provider who performs the procedure correctly, and use proper follow-up care. cartilage. • Explain why the skeletal systems is and organ systemone year after they get a tattoo, body piercing, or acupuncture treatments. • Tattoos and body piercings involve breaking the skin and therefore carry a risk of infection. • There are health risks associated with body piercings and tattoos. Anyone considering undergoing these procedures should first research them, be aware of the health risks, find a provider who performs the procedure

		correctly, and use proper follow-up care. Suggested Science and Engineering Practice Developing and Using Models Suggested Crosscutting Concepts Structure and Function Tattooing is as ancient as modern man. These decorative marks have been found in cavemen and mummies, spanning many different cultures worldwide. The first modern tattooing machine was modeled after Thomas Edison's engraving machine and ran on electricity. Today, over 60 million Americans have at least one tattoo – that means one out of every 5 people have gotten inked at some point in life. Today, as tattoos are not taboo anymore, we must focus on caring for them and understanding their impact on skin health. The disruption of homeostatic mechanisms may lead to disease, and if severe enough, death.
4	What objective(s) must be taught? In what order? Why?	SWBAT explain the Structure of the Integumentary system in Human IOT analyze their functions such as Protection & Cutaneous sensation.
5	What is your resource plan for each of the 5 Es of inquiry-based science instruction? 1. Engage 2. Explore 3. Explain	Engage • Integumentary System Video • Crash Course Video: The Integumentary System Part I, Skin Deep • Crash Course Video: The Integumentary System Part II, Skin Deeper • The Biology of Skin Color. Explore EMC AA&P Workbook & Laboratory Manual: • Chapter 4, pp. 44-50 • Laboratory Activity 1: Histology of the Integumentary System, pp. 51-52 • Laboratory Activity 2: Effectiveness of Sunscreen at Blocking Ultraviolet Light, pp. 52-53 • Getting Comfortable in My Own Skin Activity Students will investigate the integumentary system as well as discuss the art of tattoos and which layer of skin is inked when going under the needle. • The Biology of Skin Color Activity Explain • Homeostatic Skin Imbalance Writing Assignment Students will describe four homeostatic imbalances that can occur in relation to the skin. Students will use evidence to describe in detail each problem along with the underlying cause of each imbalance. Elaborate • Chapter 4: Related Research, p. 147 • Chapter 4: Science and Social Ethics, p. 136 Evaluate • Chapter 4 Concept Check, pp.128, 130, 133, 140, 144, 148, 151 • Chapter 4 Study Guide, pp. 152-159

	4. Elaborate 5. Evaluate	
6	What academic language must be taught before and after the explain phase ? How will the academic language be taught and assessed ?	Integument, adipose tissue, areolar connective tissue, capillaries, dermal papilla, dermis, epidermis, fascia, fasciitis, hypodermis, keratin, keratocytes, Langerhans cells, melanin, stratum, stratum basale, stratum compactum, stratum corneum, subcutaneous layers, skin structures, skin appendages, functions of the integumentary system, pathology of the integumentary system, aging of the integumentary system
7	What is your plan to ensure that assessment of instruction on this standard is not solely characterized by remembering or regurgitating factual information ?	What is the relationship between anatomical structure and physiological function? • How does organization contribute to the proper function of the human body? • How do location and direction contribute to anatomical functions? • Where and when are negative versus positive feedback loops necessary for maintaining homeostasis
8	What literacy concept can be intertwined with instruction on this scientific concept or phenomenon?	Including the content lecture, students will learn dissection of heart, brain, rats, piglets' systems that are similar as human structure and function. Compare between skin types, and the genetics info behind the Integumentary system.
9	How will instruction be impacted by the Cross Cutting Concepts and the Science & Engineering Practices?	This is a premed course. This study will help them to prepare for nursing schools, medical colleges, pharmacy institutes, pharmacology labs, and the graduate school scientific careers.