

Anatomy and Physiology - Unit 1 - Organization of the Human Body

Unit Focus

The unit is focused on the discovery of how healthcare professionals communicate with each other about how the human body is organized. Students will investigate the meanings and applications of various directional and landmark vocabulary that will be important to know in subsequent units. Students will be expected to apply their understanding of feedback mechanisms and homeostasis gained from a prior course in Biology as they investigate how each body system is reliant upon other body systems in order to function properly. The culminating assessment for this unit will be a student-created reference website that clearly explains a specific body system and correctly and appropriately uses anatomical terms. Important to note, this course is largely a student-directed, self-paced investigation of body systems of the students' choosing. Some units incorporate dissections, others do not. However, throughout the course, there will be an ongoing teacher-led dissection that will allow students the opportunity to examine all of a mammal's body systems. If students prefer not to dissect or not to look at the teacher-led dissection, alternate learning experiences will be provided.

Stage 1: Desired Results - Key Understandings

| Standard(s) | Transfer | |
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| <p>Next Generation Science <i>High School Life Sciences: 9 - 12</i></p> <ul style="list-style-type: none"> Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms. <i>HS-LS1-2</i> <p>Next Generation Science Standards (DCI) <i>Science: 10</i></p> <ul style="list-style-type: none"> Systems of specialized cells within organisms help them perform the essential functions of life. <i>LS1.9.A1</i> Multicellular organisms have a hierarchical structural organization, in which any one system is made up of numerous parts and is itself a component of the next level. <i>LS1.9.A3</i> Feedback mechanisms maintain a living system's internal conditions within certain limits and mediate behaviors, allowing it to remain alive and functional even as external conditions change within some range. Feedback mechanisms can encourage (through positive feedback) or discourage (negative feedback) what is going on | <p>T1 Make observations and ask questions to define a problem based on prior knowledge and curiosity that stimulates further exploration, analysis, and discovery.</p> <p>T2 Communicate effectively based on purpose, task, and audience to promote collective understanding and/or recommend actions.</p> | |
| | Meaning | |
| | Understanding(s) | Essential Question(s) |
| | <p>U1 The scientific/medical community use very specific terms to describe the location of organs/structures in the human body.</p> <p>U2 All body systems are functional reliant on all other body systems.</p> <p>U3 Homeostasis is maintained through the proper functioning of all body systems and is essential for health.</p> | <p>Q1 How does structure relate to function?</p> <p>Q2 How does having a standard set of terms that reference the various body planes and landmarks help people in the medical field?</p> <p>Q3 How does the organization of the human body allow for the required physiological processes to occur?</p> <p>Q4 How can I use landmarks and reference points to explain the position of a structure in a body?</p> <p>Q5 How do systems interact to allow for proper functioning of an organism?</p> |
| | Acquisition of Knowledge and Skill | |
| | Knowledge | Skill(s) |
| <p>K1 Students will know the name and location of various</p> | <p>S1 Apply understanding of the medical terms and</p> | |

Stage 1: Desired Results - Key Understandings

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| <p>inside the living system. <i>LS1.9.A4</i></p> <p>Student Growth and Development 21st Century Capacities Matrix</p> <p><i>Critical Thinking</i></p> <ul style="list-style-type: none"> Analyzing: Students will be able to examine information/data/evidence to make inferences and identify possible underlying assumptions, patterns, and relationships. <i>MM.1.2</i> <p><i>Collaboration/Communication</i></p> <ul style="list-style-type: none"> Product Creation: Students will be able to effectively use a medium to communicate important information (findings, ideas, feelings, issues, etc.) for a given purpose. <i>MM.3.2</i> | <p>landmarks on the human body, including but not limited to: cephalic, frontal, orbital, nasal, buccal, oral, cervical, thoracic, sternal, axillary, abdominal, umbilical, pelvic, inguinal, pubic, deltoid, brachial, antecubital, carpal, digital, etc.</p> <p>K2 Body systems rely on each other to function properly.</p> <p>K3 Vocabulary: anatomical position, supine, prone, superior, inferior, posterior, anterior, medial, lateral, proximal, distal, sagittal, coronal, frontal, and transverse.</p> | <p>landmarks to various body systems.</p> <p>S2 Create a website that correctly uses medical terminology and that can be used as a reference for others to learn about the interdependence of body systems.</p> |
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