| Time Frame: Sept-June | Marieb's Anatomy & Physiology Chapters 1 - 7 | Course: Anatomy & Physiology I |
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## Stage 1 - Desired Results

### Established Goals

Content standards / habits of mind / cross disciplinary goal(s) (21st century skills, core competencies):

- ***Students will demonstrate the ability to make observations using the properties of structure and function in order to model fundamental biological systems.***
- ***Students will demonstrate the ability to investigate and analyze using properties of fundamental biological systems in order to explain increasing orders of complexity of systems.***
- ***Students will demonstrate the ability to analyze and summarize text and integrate knowledge to make meaning of discipline-specific materials.***
- ***Students will demonstrate the ability to produce coherent and supported writing in order to communicate effectively for a range of discipline-specific tasks, purposes, and audiences.***
- ***Students will demonstrate the ability to speak purposefully and effectively by strategically making decisions about content, language use, and style.***

### Transfer

*Students will be able to independently use their learning to* ***apply the principles of homeostasis to their personal health and/or relate the principles to health issues of family and friends.***

### Meaning

UNDERSTANDINGS

*Students will understand that….*

- Feedback (negative or positive) can stabilize or destabilize a system, yet the intent is to return the body to homeostasis and wellness if conditions allow.
- Investigating a new system (cell, tissue, organs, etc…) or structures within a system requires detailed examination of the properties of different materials, the structures of each component, and connections between the components to reveal function.

ESSENTIAL QUESTIONS

- *How is Anatomy distinct from Physiology?*
- *How are the various levels of organization (cell, tissue, organs, etc…) organized into viable organ systems?*
- *How would you make an argument for a particular organ system being the most vital for supporting life?*
- *In what ways do we see organ systems working cooperatively to maintain homeostasis ?*
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### Acquisition

| Content Standards: | **Students will know…** | Students will be skilled at… |
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| • HS-LS1-2. Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.<br>• HS-LS1-3 Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis. | • systems of specialized cells within organisms help them perform the essential functions of life.<br>• 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.<br>• 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.<br>*Feedback mechanisms can encourage (through positive feedback) or discourage (negative feedback) what is going on inside the living system.*<br>• the body is made up of specific chemical constituents that allow the systems to function properly.<br>• body cells, tissues, organs and systems can be plagued by diseases that can compromise homeostasis. | • *describing position and structure*<br>• *developing and using models.*<br>• *planning and conducting investigations.*<br>• *making judgments and decisions*<br>• *setting and achieving daily work goals*<br>• *working creatively with others*<br>• *communicating clearly in various media*<br>• *collaborating with others* |
| | Students will know:<br>● Anatomical landmarks and directional terms<br>● Sense organ structure and function<br>● Endocrine glands and action of their hormones in keeping homeostasis<br>● Blood composition and human blood groups<br>● Heart structure and physiology<br>● Lymphatic system structure and types of immunity<br>● Respiratory structures and how they work together and with circulatory system for gas exchange<br>● Digestive structures and how they work sequentially<br>● Urinary organ structure and overall physiology<br>● Reproductive differences between males and females<br>● Survey contraceptive measures that target men vs women<br>● Sequence of events that lead to pregnancy and its completion; being able to see where different methods interrupt the flow of events. | |