01. The Functional Human

Content Area: **Science**
Course(s):
Time Period: **Semester 1**
Length: **3 weeks**
Status: **Published**

Standards

	Obtaining, Evaluating, and Communicating Information
	Cause and Effect
HS-LS1	From Molecules to Organisms: Structures and Processes
HS-LS1-2	Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.
	Developing and Using Models
LS2.B	Cycles of Matter and Energy Transfer in Ecosystems
	Stability and Change
	Constructing Explanations and Designing Solutions
	Systems and System Models

Enduring Understandings

- The body is a dynamically balanced organism - Relying on the interpretation, generation, and processing of multiple stream of information to maintain that homeostatic balance).
- How something is “built” influences how it “works.” - Consequently, changes in structure, function, or both impact the efficient function of the body systematically.
- The body follows the “3I’s” - It is a hierarchy of interdependent, interrelated, and interconnected parts.

Essential Questions

- How does the human body exhibit the characteristics of a system?
- How do bodies exhibit "The 3 I s?"
- How is the human body regulated homeostatically?
- How does the structure of a particular body part (micro, macro) allow it to function properly?
- How can electrolyte and water balance be used to demonstrate the concept of homeostatic balance?

Knowledge and Skills

NGSS Science Skills/Practices:

- Asking Questions
- Developing and Using Models
- Constructing Explanations.
- Engaging in Argument from Evidence.
- Obtaining, Evaluating, and Communicating Information.

Knowledge:

- List and describe some basic structures and the major functions of the Primary Human Systems.
- Conceptually describe a functional (and potentially non-functional) system, and how the components behave within.
- Describe homeostasis in a meaningful way, and give examples of values "held" at homeostasis in the body.
- Conceptually describe Negative Feedback and its relationship in maintaining homeostatic balance. Compare to positive feedback.
- Provide specific inter and intra-systemic examples of negative feedback mechanisms in the body in the context of homeostasis.
- Distinguish between positive and negative feedback mechanisms.

Assessments

https://docs.google.com/document/d/1wR7bQF-8AQoRrt0g4C3hKja0yjwDjC9_BiAmONWbTcI/edit?usp=sharing

Modifications

https://docs.google.com/document/d/1ODqaPP69YkcFiyG72fIT8XsUIe3K1VSG7nxuc4CpCec/edit?usp=sharing