

01. The Functional Human

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

Standards

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

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_BiAmONWbTcl/edit?usp=sharing

Modifications

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

