



## Module 5: Human Biology - Systems, Health, and Wellness

*(Science – Human Anatomy, Physiology, and Medical Sciences)*

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### Core Focus

**The human body is a complex, interconnected system.**

This module investigates the structure and function of human biological systems, explores health and wellness, and examines the causes and prevention of illness and disease.

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### Key Concepts & Learning Goals

Theme	Topics
<b>1. Introduction to Human Biology</b>	- Overview of body systems - Hierarchical organization: cells, tissues, organs, systems - Homeostasis and regulation
<b>2. Skeletal &amp; Muscular Systems</b>	- Major bones and muscle groups - Movement and support - Injury prevention and care
<b>3. Circulatory &amp; Respiratory Systems</b>	- Heart, blood, and vessels - Oxygen transport and gas exchange - Health of heart and lungs
<b>4. Digestive &amp; Excretory Systems</b>	- Nutrient absorption and waste removal - Organs of digestion - Dietary health and hydration
<b>5. Nervous &amp; Endocrine Systems</b>	- Brain, spinal cord, and nerves - Hormones and regulation - Response to stimuli and stress
<b>6. Immune System &amp; Disease</b>	- Pathogens, immunity, and vaccines - Common diseases and disorders - Epidemiology basics
<b>7. Reproductive Health &amp; Development</b>	- Human reproduction basics - Puberty and life stages - Healthy choices and boundaries
<b>8. Wellness, Prevention &amp; Public Health</b>	- Nutrition, exercise, sleep, hygiene - Mental health and emotional well-being - Public health systems and global health challenges

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### Hands-On Activities

- Body System Diagrams & Models
- Pulse & Breathing Rate Experiments
- Healthy Plate Nutrition Game
- Disease Transmission Simulation
- Stress Response Journaling & Reflection

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## **STEAM Integration**

- **Science:** Anatomy, physiology, health sciences
- **Technology:** Medical imaging, fitness trackers, health data
- **Engineering:** Prosthetics, assistive tech, biomedical devices
- **Arts:** Anatomical illustration, health campaigns
- **Math:** Vital statistics, BMI, dosage calculations

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## **21st Century Skills Emphasized**

- Health Literacy
- Critical Analysis of Information
- Empathy & Self-Awareness
- Community & Global Responsibility