

# Human Anatomy and Physiology: Grades 9, 10, 11, 12

Adopted 2018

Patterns	<b>HAP-LS1-1AR.</b> Construct an explanation based on evidence obtained from a variety of sources for the pattern of hierarchical organization of each body system: <ul style="list-style-type: none"><li>Integumentary System</li><li>Skeletal System</li><li>Muscular System</li><li>Respiratory System</li><li>Circulatory System</li><li>Digestive System</li><li>Nervous System</li><li>Endocrine System</li><li>Lymphatic System</li><li>Urinary System</li><li>Reproductive Systems</li></ul> <b>HAP-LS1-1AR</b>
Structure and Function	<b>HAP-LS2-1AR.</b> Develop and use a model to identify and describe the relationship between the structures and physiological processes of each body system: <ul style="list-style-type: none"><li>Integumentary System</li><li>Skeletal System</li><li>Muscular System</li><li>Respiratory System</li><li>Circulatory System</li><li>Digestive System</li><li>Nervous System</li><li>Endocrine System</li><li>Lymphatic System</li><li>Urinary System</li><li>Reproductive Systems</li></ul> <b>HAP-LS2-1AR</b>
Scale, Proportion, and Quantity	<b>HAP-LS3-1AR.</b> Use mathematics and computational thinking to support explanations for physiological processes in body systems. <b>HAP-LS3-1AR</b>
Stability and Change	<b>HAP-LS4-1AR.</b> Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis. <b>HAP-LS4-1AR</b>
Cause and Effect	<b>HAP-LS5-1AR.</b> Argue from evidence the cause(s) for a dysfunction in a body system and the mechanisms by which it occurred. <b>HAP-LS5-1AR</b>
Energy and Matter	<b>HAP-LS6-1AR.</b> Construct and revise an explanation based on evidence for the cycling of matter and flow of energy among body systems and their associated processes. <b>HAP-LS6-1AR</b>
Systems and System Models	<b>HAP-LS7-1AR.</b> Develop and use a model to illustrate the interactions between systems that control or affect specific functions within the human body. <b>HAP-LS7-1AR</b>

## Career Exploration with Engineering Practices

**HAP-8-1AR.** Obtain, evaluate, and communicate information related to health science professions. HAP-8-1AR

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**HAP-8-2AR.** Design a solution to a complex real-world problem affecting body systems that can be solved through engineering. HAP-8-2AR

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**HAP-8-3AR.** Evaluate a solution to a complex real-world human health problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts. HAP-8-3AR