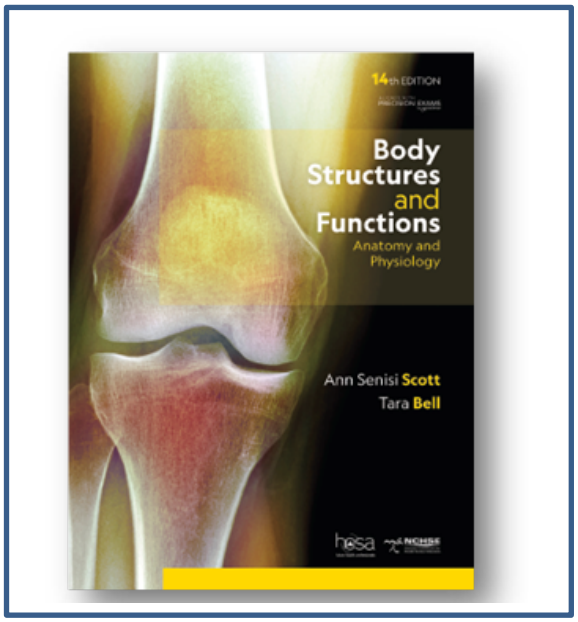

FLORIDA Standards Correlations

Next Generation Sunshine State Standards

Anatomy and Physiology, Body Structures and Functions, 9-12

STANDARD	STUDENT/TEACHER EDITION	MTRs and EEs
SC.912.L.14.11 Classify and state the defining characteristics of epithelial tissue, connective tissue, muscle tissue, and nervous tissue	Chapter 5. Pages: 67-78 - Students describe and define function and location of epithelial, connective, muscle, and nervous tissue. Describe the process involved in tissue repair.	MA.K12.MTR.1.1 ELA.K12.EE.1.1
SC.912.L.14.12 Describe the anatomy and histology of bone tissue.	Chapter 5. Pages: 67-78 - Students describe and define function and location of epithelial, connective, muscle, and nervous tissue. Describe the process involved in tissue repair.	MA.K12.MTR.1.1 ELA.K12.EE.1.1
SC.912.L.14.13 Distinguish between bones of the axial skeleton and the appendicular skeleton.	Chapter 7. Pages: 105-108. Lab Activity 7-1, p. 135. Students learn the function of the skeletal system. Bone structure and formation. Lab activity to examine the histology of a long bone.	MA.K12.MTR.1.1 ELA.K12.EE.3.1
SC.912.L.14.14 Identify the major bones of the axial and appendicular skeleton.	Chapter 7. Pages: 109-118. Lab Activity 7-2, p. 135. Students distinguish parts of the skeletal system: axial and appendicular skeleton. Lab activity to examine bones of the skeletal system.	MA.K12.MTR.1.1 ELA.K12.EE.1.1
SC.912.L.14.16 Describe the anatomy and histology, including ultrastructure, of muscle tissue.	Chapter 7. Pages: 109-118. Matching activity: pages 132-133. Students label major bones of axial and appendicular skeleton.	MA.K12.MTR.2.1 ELA.K12.EE.2.1

STANDARD	STUDENT/TEACHER EDITION	MTRs and EEs
SC.912.L.14.17 List the steps involved in the sliding filament of muscle contraction.	Chapter 8. Pages: 142 -143 - Students discuss muscle contraction at the molecular level.	MA.K12.MTR.6.1 ELA.K12.EE.4.1
SC.912.L.14.18 Describe signal transmission across a myoneural junction..	Chapter 8. Pages: 142 -143 - Students understand how the signal is transmitted across the myoneural junction.	MA.K12.MTR.2.1 ELA.K12.EE.3.1
SC.912.L.14.20 Identify the major muscles of the human on a model or diagram.	Chapter 8. Pages: 143-150 (diagrams spread throughout) - Students identify principal skeletal muscles of the human body using diagrams.	MA.K12.MTR.2.1 ELA.K12.EE.2.1
SC.912.L.14.21 Describe the anatomy, histology, and physiology of the central and peripheral nervous systems and name the major divisions of the nervous system	Chapter 9. Pages: 163-168. Chapter 10. Pages: 189-196 - Students understand the anatomy, histology, and physiology of the peripheral and central nervous system. Name the major divisions of the nervous system.	MA.K12.MTR.1.1 ELA.K12.EE.2.1
SC.912.L.14.23 Identify the parts of a reflex arc.	Chapter 10. Pages: 194-196 - Students identify and describe the components of the reflex arc.	MA.K12.MTR.6.1 ELA.K12.EE.3.1
SC.912.L.14.24 Identify the general parts of a synapse and describe the physiology of signal transmission across a synapse.	Chapter 9. Pages: 166-168 and Lab Activity 9-1, p. 187 - Students identify the parts of synapse and describe how a signal is transmitted across a synapse.	MA.K12.MTR.6.1 ELA.K12.EE.4.1
SC.912.L.14.25 Identify the major parts of a cross section through the spinal cord.	Chapter 9. Pages: 176-177. Chapter 10. Pages: 193. Students identify main parts on a cross section of the spinal cord.	MA.K12.MTR.1.1 ELA.K12.EE.5.1
SC.912.L.14.26 Identify the major parts of the brain on diagrams or models.	Chapter 9. Pages: 168-177 - Students identify and label the parts of the brain on a diagram.	MA.K12.MTR.5.1 ELA.K12.EE.5.1

STANDARD	STUDENT/TEACHER EDITION	MTRs and EEs
SC.912.L.14.28 Identify the major functions of the spinal cord.	Chapter 9. Pages:176-177 - Students identify the major functions of the spinal cord.	MA.K12.MTR.2.1 ELA.K12.EE.1.1
SC.912.L.14.29 Define the terms endocrine and exocrine.	Chapter 12. Page: 234. Students learn to differentiate between endocrine and exocrine glands.	MA.K12.MTR.1.1 ELA.K12.EE.2.1
SC.912.L.14.30 Compare endocrine and neural controls of physiology.	Chapter 12. Pages: 235- 236 - Students compare two mechanism of gland control: endocrine and neural.	MA.K12.MTR.2.1 ELA.K12.EE.1.1
SC.912.L.14.32 Describe the anatomy and physiology of the endocrine system.	Chapter 12. Pages: 235- 236 - Students compare two mechanism of gland control: endocrine and neural.	MA.K12.MTR.2.1 ELA.K12.EE.1.1
SC.912.L.14.33 Describe the basic anatomy and physiology of the reproductive system.	Chapter 12. Pages: 236- 245 and Chart Activity p. 257 - Students understand the anatomy and physiology of the endocrine system.	MA.K12.MTR.6.1 ELA.K12.EE.3.1
SC.912.L.14.34 Describe the composition and physiology of blood, including that of the plasma and the formed elements.	Chapter 22. Pages: 474-475 / 479-491; Labeling chart, p.510 / Lab Activity 22-1, p. 511 - Students learn the anatomy and physiology of the reproductive system.	MA.K12.MTR.1.1 ELA.K12.EE.6.1
SC.912.L.14.35 Describe the steps in hemostasis, including the mechanism of coagulation. Include the basis for blood typing including that of plasma and formed elements	Chapter 13. Pages: 262-268 and Lab Activity 13-1, p. 278 - Students learn the composition and physiology of blood, including that of the plasma and the formed elements.	MA.K12.MTR.1.1 ELA.K12.EE.6.1
SC.912.L.14.36 Describe the factors affecting blood flow through the cardiovascular system.	Chapter 13. Pages: 270-273 - Students describe how some factors can affect blood flow through the cardiovascular system.	MA.K12.MTR.4.1 ELA.K12.EE.5.1
SC.912.L.14.38 Describe normal heart sounds and what they mean.	Chapter 14. Pages: 287-288 and Lab Activity 14-3, p.304 - Students understand how a normal heart sounds and the meaning of each sound.	MA.K12.MTR.1.1 ELA.K12.EE.2.1
SC.912.L.14.39 Describe hypertension and some of the factors that produce it.	Chapter 15. Pages: 317, 320-322 - Students describe hypertension and the factors that can cause it.	MA.K12.MTR.5.1 ELA.K12.EE.1.1

STANDARD	STUDENT/TEACHER EDITION	MTRs and EEs
SC.912.L.14.41 Describe fetal circulation and changes that occur to the circulatory system at birth.	Chapter 15. Pages: 306, 309-310 - Students describe fetal circulation and the changes that take place to the circulatory system at birth.	MA.K12.MTR.1.1 ELA.K12.EE.3.1
SC.912.L.14.42 Describe the anatomy and the physiology of the lymph system.	Chapter 16. Pages: 330-334 and Lab Activity 16-2, p. 356 - Students describe the anatomy and physiology of the lymphatic system.	MA.K12.MTR.2.1 ELA.K12.EE.4.1
SC.912.L.14.44 Describe the physiology of the respiratory system including the mechanisms of ventilation, gas exchange, gas transportation, and mechanisms that control rate of ventilation.	Chapter 18. Pages: 380 - 391 and Lab Activity 18-1, p. 401 - Students describe the physiology of the respiratory system, including the mechanisms of ventilation, gas exchange, gas transportation, and mechanisms that control the rate of ventilation.	MA.K12.MTR.7.1 ELA.K12.EE.4.1
SC.912.L.14.46 Describe the physiology of the digestive system, including mechanical digestion, chemical digestion, absorption, and neural and hormonal mechanisms of control.	Chapter 19. Pages: 404-419 and Lab Activity 19-1, p. 433 - Students describe the physiology of the digestive system, including the mechanisms of digestion, chemical digestion, absorption, and neural and hormonal mechanisms of control.	MA.K12.MTR.2.1 ELA.K12.EE.5.1
SC.912.L.14.47 Describe the physiology of urine formation by the kidney.	Chapter 21. Pages: 454-459 - Students describe the physiology of urine formation by the kidney.	MA.K12.MTR.2.1 ELA.K12.EE.6.1
SC.912.L.14.49 Identify the major functions associated with the sympathetic and parasympathetic nervous systems.	Chapter 10. Pages: 190, 194-196 - Students identify the major functions associated with the sympathetic and parasympathetic nervous system.	MA.K12.MTR.2.1 ELA.K12.EE.5.1
SC.912.L.14.50 Describe the structure of vertebrate sensory organs. Relate structure to function in vertebrate sensory system...	Chapter 11. Pages: 208-212, 217-220, 222-223; Lab Activity 11-1, p.230 - Students describe the structure of the sensory organs in vertebrates. Students understand the relationship between the structure and function of the sensory organs.	MA.K12.MTR.1.1 ELA.K12.EE.3.1
SC.912.L.14.51 Describe the function of the vertebrate integumentary system.	Chapter 6. Pages: 84-89 and Lab Activity 6-3, p. 104 - Students describe the functions of the integumentary system in vertebrates.	MA.K12.MTR.1.1 ELA.K12.EE.5.1

STANDARD	STUDENT/TEACHER EDITION	MTRs and EEs
SC.912.L.14.52 Explain the basic functions of the human immune system, including specific and nonspecific immune response.	Chapter 16. Pages: 335-339 - Students understand and explain the basic functions of the immune system in humans, including specific and non-specific immune response.	MA.K12.MTR.6.1 ELA.K12.EE.3.1
SC.912.L.16.8 Explain the relationship between mutation, cell cycle, and uncontrolled cell growth potentially resulting in cancer.	Chapter 4. Pages: 50-53, 57-61 - Students explain how mutations in the cell cycle and uncontrolled cell growth can potentially lead to cancer.	MA.K12.MTR.1.1 ELA.K12.EE.3.1
SC.912.L.18.1 Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.	Chapter 3. Pages: 33-37 - Students explain the structure and function of the 4 major categories of biological macromolecules.	MA.K12.MTR.6.1 ELA.K12.EE.5.1
SC.912.L.18.11 Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions.	Chapter 3. Page: 35. Students understand the role of enzymes.	MA.K12.MTR.6.1 ELA.K12.EE.3.1
SC.912.N.1.1 Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science.	Chapter 1. Pages: 6-11 and Lab Activity 1-1, p. 13 - Student proposes a topic and a question. The student reviews the literature and comes up with a scientific plan to answer the question. Analyzes the results and communicates the findings.	MA.K12.MTR.6.1 ELA.K12.EE.4.1
SC.912.N.1.2 Describe and explain what characterizes science and its methods.	Chapter 1. Pages: 6-11 - Student understands how the scientific method works.	MA.K12.MTR.1.1 ELA.K12.EE.6.1