

## Biology Study Guide

### Cycle 3: Weeks 1 & 2

*All living organisms are but leaves on the same tree of life. The various functions of plants and animals and their specialized organs are manifestations of the same living matter. This adapts itself to different jobs and circumstances, but operates on the same basic principles. Muscle contraction is only one of these adaptations. In principle it would not matter whether we studied nerve, kidney or muscle to understand the basic principles of life. In practice, however, it matters a great deal.*

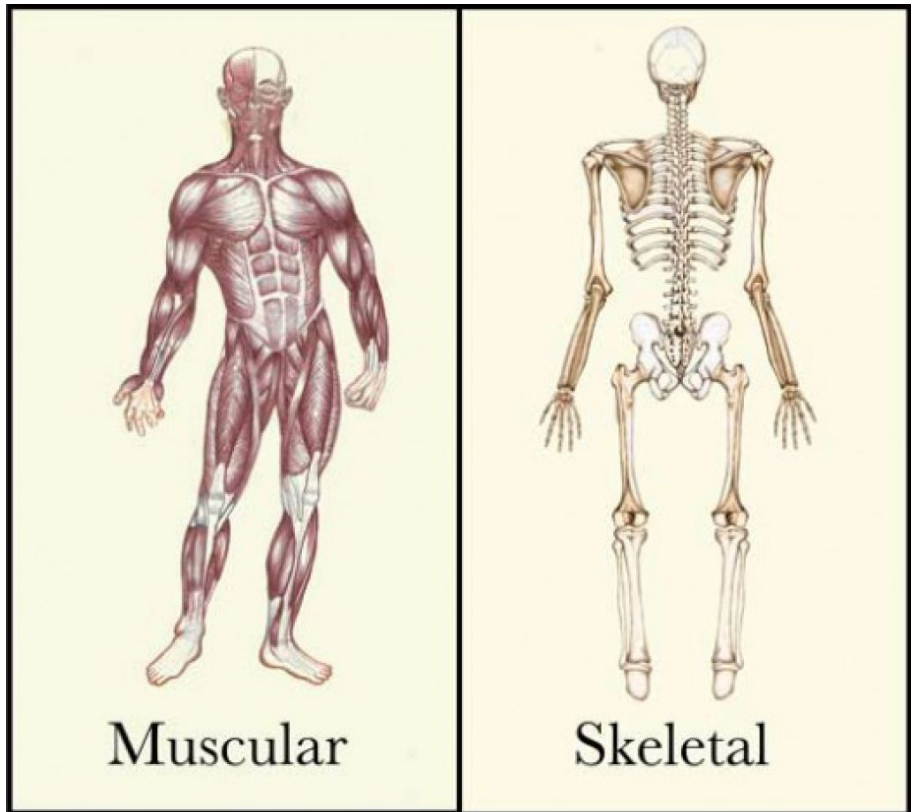
— Albert Szent-Gyorgyi

#### Overview and Objectives

In this cycle of study we will build on our knowledge and understanding of cells and cellular structures. We will examine how cells, together, make larger structures called tissues. These tissues make up larger structures called organs that then make up organ systems. We will examine these levels of organization and relate their structure to their function. Organs and organ systems function together to provide homeostasis in organisms. The functioning of organs depends upon multiple organ systems. (USOE Std. 3.1-2)

#### Essential Questions:

- How do the processes that occur at a cellular level influence the structure, functions, and behavior at the tissue, organ, organ system, and organism level?
- What patterns are there in Nature that defines “living”?



#### Week 1: DUE Friday, Feb 3

- \_\_\_\_\_ 1. Read the quotes and overview with the class and mark them up.
- \_\_\_\_\_ 2. Complete and submit your graphic organizer on the 4 Tissue Types.
- \_\_\_\_\_ 3. Complete the assigned reading from the Biology textbook: pp. 128-132.

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Cycle 3: Biology Jan 30 – March 17

- \_\_\_\_\_ 4. Complete at least two bones and one muscle and place appropriately on your body model.
- \_\_\_\_\_ 5. Participate in and take notes on the lesson: What is the Anatomical Position?
- \_\_\_\_\_ 6. Watch the instructional video: “Anatomical terms of direction and planes of section”
- \_\_\_\_\_ 7. Complete your graphic organizer on anatomical planes of direction.
- \_\_\_\_\_ 8. Participate in and take notes on the lesson: Skeletal and Muscular System

**Week 2: DUE Friday, February 10**

- \_\_\_\_\_ 9. Participate in the Lab Dissection Activity: Muscles and Bones
- \_\_\_\_\_ 10. Complete the Tissue types quiz/worksheet.
- \_\_\_\_\_ 11. Participate in and take notes on the lesson: The Nervous System
- \_\_\_\_\_ 12. Participate in the lab activity: Pain.
- \_\_\_\_\_ 13. Add a brain or other nervous organ to your body model.
- \_\_\_\_\_ 14. Complete the assigned reading from the Biology textbook: pp. 140-146.

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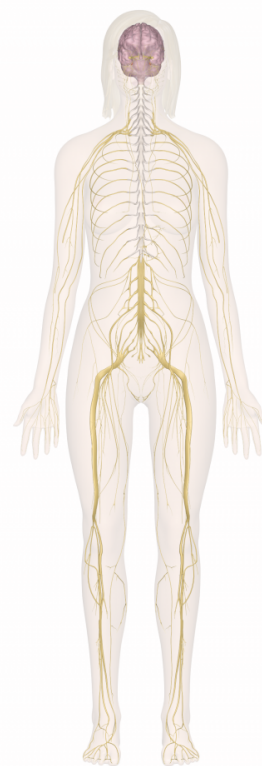
### Cycle 3: Weeks 3 & 4

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#### Week 3: DUE Friday, February, 17

- \_\_\_\_\_ 15. Participate in the lesson: The Circulatory System and Blood Type
- \_\_\_\_\_ 16. Add a circulatory component to your personal body model.
- \_\_\_\_\_ 17. Complete the Directional Terminology Quiz
- \_\_\_\_\_ 18. Participate in the lesson: The Respiratory System
- \_\_\_\_\_ 19. Add two Respiratory components to your personal body model.
- \_\_\_\_\_ 20. Complete the assigned reading from the Biology textbook: pp. 147-148.

#### Week 4: DUE Friday, February, 24

- \_\_\_\_\_ 21. Participate in the lab: Blood Typing.

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\_\_\_\_\_ 22. Complete the assigned reading from the Biology textbook: pp.149-152.

\_\_\_\_\_ 23. Participate in the lesson and accompanying labs: Heart Rate, Blood Pressure, and Respiratory Physiology (lung volume).

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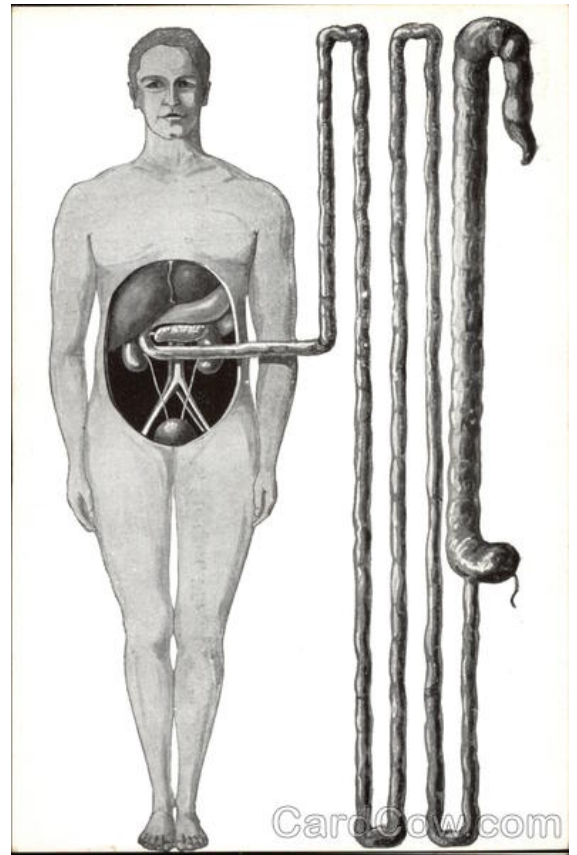
### Cycle 3: Weeks 5, 6, & 7

#### Overview and Objectives

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#### Essential Questions:

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- What patterns are there in Nature that defines "living"?



#### Week 5: DUE Friday, March 3

- \_\_\_\_\_ 24. Participate in and take notes on the lesson: The Digestive and Excretory Systems.
- \_\_\_\_\_ 25. Participate in and take notes on the lesson: The Integumentary system.
- \_\_\_\_\_ 26. Add three digestive and one excretory organ to your personal body model
- \_\_\_\_\_ 27. Complete the assigned reading from the Biology textbook: pp. 133-139 and 154-156.
- \_\_\_\_\_ 28. Participate in and take notes on the lesson: The Lymphatic System.
- \_\_\_\_\_ 29. Add two lymphatic organs to your personal body model.

#### Week 6: DUE Friday, March 10

- \_\_\_\_\_ 30. Complete your personal body model and submit for grading.

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\_\_\_\_\_ 31. Complete the final Exam: Human Anatomy and Physiology

**Week 7: DUE Friday, March 17**

\_\_\_\_\_ 32. Participate in the lesson: Plant Tissues and Growth; Seeds: The Monocot and Dicot

\_\_\_\_\_ 33. Complete the assigned reading from the Biology textbook: pp. 161-172 and accompanying questions 1-15 on page 173.

\_\_\_\_\_ 34. Participate in and take notes on the lesson: Plant Organs.

\_\_\_\_\_ 35. Complete the Plant Parts graphic organizer.

\_\_\_\_\_ 36. Complete the Observation Lab: Parts of a Seed, by observing, drawing, and labeling your seeds. What are the differences between the various seeds and their respective parts?