## HUMAN ANATOMY

### Lansing School District Curriculum

<table>
<thead>
<tr>
<th>Integration Teacher Notes</th>
<th>Curriculum</th>
<th>Instructional Strategies</th>
<th>Resources</th>
<th>Assessment</th>
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<td>Year long instructional strategies, processes, skill development, or content expectations</td>
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### Unit 1
**Levels of Organization**
- Ch 1 Intro to Human Anatomy
- Ch 2 Chemical Basis of life
- Ch 3 Cells
- Ch 4 Cellular Metabolism
- Ch 5 Tissues

| Lecture, Vocabulary assts, Book questions, Video clips, Dissection labs, Internet Tutorials, Supervised labs, Memorization, and Matching |
|--------------------------|--------------------------|--------------------------|--------------------------|
| Holes: *Essentials of Human Anatomy and Physiology*, Computer/Internet, Dissection and Lab tools, Specimens, DVD Player |

### Unit 2
**Support and Movement**
- Ch 6 Integumentary System
- Ch 7 Skeletal System
- Ch 8 Muscular System

| Lecture, Vocabulary assts, Book questions, Video clips, Dissection labs, Internet Tutorials, Supervised labs, Memorization, and Matching |
|--------------------------|--------------------------|--------------------------|--------------------------|
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### Unit 3
**Integration and Coordination**
- Ch 9 Nervous System
- Ch 10 Somatic Senses
- Ch 11 Endocrine System

| Lecture, Vocabulary assts, Book questions, Video clips, Dissection labs, Internet Tutorials, Supervised labs, Memorization, and Matching |
|--------------------------|--------------------------|--------------------------|--------------------------|
| Holes: *Essentials of Human Anatomy and Physiology*, Computer/Internet, Dissection and Lab tools, Specimens, DVD Player |

### Unit 4
**Transport**
- Ch 12 Blood
- Ch 13 Cardiovascular System
- Ch 14 Lymphatic System & Immunity

| Lecture, Vocabulary assts, Book questions, Video clips, Dissection labs, Internet Tutorials, Supervised labs, Memorization, and Matching |
|--------------------------|--------------------------|--------------------------|--------------------------|
| Holes: *Essentials of Human Anatomy and Physiology*, Computer/Internet, Dissection and Lab tools, Specimens, DVD Player |

### Unit 5
**Absorption and Excretion**
- Ch 15 Digestion & Nutrition
- Ch 16 Respiratory System
- Ch 17 Urinary System

| Lecture, Vocabulary assts, Book questions, Video clips, Dissection labs, Internet Tutorials, Supervised labs, Memorization, and Matching |
|--------------------------|--------------------------|--------------------------|--------------------------|
| Holes: *Essentials of Human Anatomy and Physiology*, Computer/Internet, Dissection and Lab tools, Specimens, DVD Player |

### Unit 6
**The Human Life Cycle (optional)**
- Ch 19 Reproductive Systems
- Ch 20 Human Growth and Development

<p>| Lecture, Vocabulary assts, Book questions, Video clips, Dissection labs, Internet Tutorials, Supervised labs, Memorization, and Matching |
|--------------------------|--------------------------|--------------------------|--------------------------|
| Holes: <em>Essentials of Human Anatomy and Physiology</em>, Computer/Internet, Dissection and Lab tools, Specimens, DVD Player |
| Memorization, and Matching | DVD Player |</p>
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### Quarterly focused instructional strategies, processes, skill development, or content expectations

#### 1st Quarter

<table>
<thead>
<tr>
<th>Unit 1</th>
<th>Chapter 1</th>
<th>Levels of Organization</th>
<th>-Describe the body using body regions and directional terms. -Define homeostasis and describe a homeostatic mechanism.</th>
<th>Lecture/Notes</th>
<th>Hole’s: <em>Essentials of Human Anatomy and Physiology</em></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>B2.3B</td>
<td></td>
<td>Lab # 1</td>
<td>Lab Manual</td>
<td></td>
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<tr>
<td></td>
<td>B2.3e</td>
<td></td>
<td>Key terms Pg.3</td>
<td>Anatomy Coloring Book</td>
<td></td>
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<tr>
<td></td>
<td>B2.5B</td>
<td></td>
<td>Questions Pg. 20-21</td>
<td>Anatomic models</td>
<td></td>
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<tr>
<td></td>
<td>B2.6a</td>
<td></td>
<td>Nurse/Triage Asst</td>
<td>Chapter 1 Objective Test</td>
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<td>Oral Practice, Triage asst.</td>
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<thead>
<tr>
<th>Unit 1</th>
<th>Chapter 2</th>
<th>Chemical Basis of Life</th>
<th>-Identify 3 types of Bonding -Differentiate between an acid and a base. -Describe the structure and function of complex organic compounds in the body</th>
<th>Lecture/Notes</th>
<th>Hole’s: <em>Essentials of Human Anatomy and Physiology</em></th>
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<tbody>
<tr>
<td></td>
<td>B2.2A</td>
<td></td>
<td>Lab # 1</td>
<td>Lab Manual</td>
<td></td>
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<tr>
<td></td>
<td>B2.2D</td>
<td></td>
<td>Key terms Pg. 31</td>
<td>Anatomy Coloring Book</td>
<td></td>
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<tr>
<td></td>
<td>B2.5A</td>
<td></td>
<td>Questions Pg. 46</td>
<td>Anatomic models</td>
<td></td>
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<tr>
<td></td>
<td>B4.3A</td>
<td></td>
<td></td>
<td>Chapter Quiz</td>
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<td></td>
<td>B4.4b</td>
<td></td>
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<td>Organic Molecule Presentations</td>
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<tr>
<th>Unit 1</th>
<th>Chapter 3</th>
<th>Cells</th>
<th>-Review the structure and function of the parts of a cell -Review cell division -Research Cancer treatments and developments -Describe how cancer works in the body</th>
<th>Lecture/Notes</th>
<th>Hole’s: <em>Essentials of Human Anatomy and Physiology</em></th>
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<tr>
<td></td>
<td>B2.1C</td>
<td></td>
<td>Lab # 3,5</td>
<td>Lab Manual</td>
<td></td>
</tr>
<tr>
<td></td>
<td>B2.1d</td>
<td></td>
<td>Key terms Pg. 48</td>
<td>Anatomy Coloring Book</td>
<td></td>
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<tr>
<td></td>
<td>B2.5i</td>
<td></td>
<td>Questions Pg. 70-71</td>
<td>Cancer Research Paper</td>
<td></td>
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</tbody>
</table>
| Unit 1 Chapter 4 Cellular Metabolism | -Explain how respiration releases chemical energy  
-Describe the general metabolic pathways of carbohydrates, lipids, and proteins | Lecture/Notes Labs, Key terms Pg. 73 Questions Pg. 94 | Hole’s: *Essentials of Human Anatomy and Physiology* Lab Manual Anatomy Coloring Book | Metabolic Pathway quiz |
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<td>Unit 1 Chapter 5 Tissues</td>
<td>-Describe different types of epithelial tissues. Identify other body tissues by cells including blood, bone, nervous, muscle, and adipose tissue.</td>
<td>Lecture/Notes Labs, # 6,7,8 Key terms Pg. 96 Questions Pg. 114</td>
<td>Hole’s: <em>Essentials of Human Anatomy and Physiology</em> Lab Manual Anatomy Coloring Book</td>
<td>Tissues Quiz Tissue Micrograph Matching lab</td>
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### Quarterly focused instructional strategies, processes, skill development, or content expectations

#### 2nd Quarter

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#### Unit 2

**Chapter 6** The Integumentary System

**B2.3d B2.6e**

- Identify structure and function of integument membranes and skin layers
- Describe several disease conditions of the skin

**Instructional Strategies**

Lecture/Notes
Labs, # 9
Key terms Pg. 116
Questions Pg. 129

**Resources**

Hole’s: *Essentials of Human Anatomy and Physiology*
Lab Manual
Anatomy Coloring Book
Chicken Skin Lab

**Assessment**

Chapter 6 Objective Test
Oral Practice (Chicken Lab)

#### Unit 2

**Chapter 7** The Skeletal System

**B2.3d B2.3g B2.6e**

- Name the major functions of skeletal system
- Name major bones of axial & appendicular skeleton
- Identify structure of typical long bone
- Describe various joints

**Instructional Strategies**

Lecture/Notes
Labs, # 10-16
Key terms Pg. 131
Questions Pg. 172

**Resources**

Hole’s: *Essentials of Human Anatomy and Physiology*
Lab Manual
Anatomy Coloring Book
Pellet Dissection/Articulation

**Assessment**

Memorization quizzes (Axial and Appendicular Skeleton)
Paper Pamphlet or Poster on chosen bone disease.
Owl Pellets
Rat or Cat Dissections

#### Unit 2

**Chapter 8** The Muscular System

**B2.3d B2.3g B2.6e**

- Differentiate between the 3 types of muscle tissues
- Identify major muscles of the body
- Explain the structure of a typical muscle unit
- Identify body-muscle coordination movements
- Describe events of muscle contraction
- Identify and explain several

**Instructional Strategies**

Lecture/Notes
Labs, # 17-21
Key terms Pg. 177
Questions Pg. 210

**Resources**

Hole’s: *Essentials of Human Anatomy and Physiology*
Lab Manual
Anatomy Coloring Book
Online Tutorial
www.webschoolsolutions.com/patts/systems/muscles.htm

**Assessment**

Chapter 8 Objective Test
Internet tutorial Assignment
Rat or Cat Dissections
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**3rd Quarter**

| Unit 3                      | Chapter 9                      | The Nervous System | **B2.3d** | **B2.r6e** | -Identify general functions of the nervous system  
|                            |                              |                  |           |           | -Describe structural & functional differences in nervous tissues  
|                            |                              |                  |           |           | -Explain the function of a typical nerve impulse  
|                            |                              |                  |           |           | -Identify the structure & function of major regions of the brain and spinal cord  
|                            |                              |                  |           |           | -Identify differences between the central and peripheral nervous systems.  
|                            | Lecture/Notes                | Labs, # 22-26  
|                            |                              | Key terms Pg. 215  
|                            |                              | Questions Pg. 258-59  
|                            | Brain Dissection             |                  |           |           |  
|                            | Reflexes Lab                 |                  |           |           |  
|                            | Hole’s: *Essentials of Human Anatomy and Physiology* | Lab Manual | Anatomy Coloring Book | Article Review |
|                            |                             |                  |           |           | **Chapter 9 Objective Test**  
|                            |                             |                  |           |           | Cat or Sheep Brain Dissection  
|                            |                             |                  |           |           |  
| Unit 3                      | Chapter 10                   | The Somatic and 5 senses | **B2.3d** | **B2.r6e** | -Identify the structure & function of the eye, ear, taste & smell receptors  
|                            |                              |                  |           |           | -Explain how sense stimuli are received and processed in the brain  
|                            |                              |                  |           |           | -Identify different tests used to assess the health of 5 senses  
|                            |                              |                  |           |           | -Explain various sensory disorders.  
|                            | Lecture/Notes                | Labs, # 27-29  
|                            |                              | Key terms Pg. 261  
|                            |                              | Questions Pg. 289-90  
|                            | Somatic Senses Lab           |                  |           |           |  
|                            | Eye Dissection               |                  |           |           |  
|                            | Hole’s: *Essentials of Human Anatomy and Physiology* | Lab Manual | Anatomy Coloring Book | **Chapter 10 Objective Test**  
|                            |                             |                  |           |           | Somatic Senses Lab Write-up  
|                            |                             |                  |           |           | Cat or Cow Eye Dissection  
|                            |                             |                  |           |           |  
| Unit 3                      | Chapter 11                   | The Endocrine system | **B2.3d** | **B2.r6e** | -Identify various hormones & target organs  
|                            |                              |                  |           |           | -Explain the effects of hormones to various body systems  
|                            | Lecture/Notes                | Labs, # 30  
|                            |                              | Key terms Pg. 292  
|                            |                              | Questions Pg. 318-19  
|                            | Hole’s: *Essentials of Human Anatomy and Physiology* | Lab Manual | Anatomy Coloring Book | **Chapter 11 Objective Test**  
|                            |                             |                  |           |           | Article Review  
|                            |                             |                  |           |           |  

| Unit 4  | Chapter 12 Blood | -Identify main components & functions of blood  
-Describe the ABO & Rh blood groups  
-Describe several blood disorders | Lecture/Notes Labs, # 31-33  
Key terms Pg. 321  
Questions Pg. 341 | Hole’s: *Essentials of Human Anatomy and Physiology*  
Lab Manual  
Anatomy Coloring Book | Chapter 12 Objective Test  
Co-dominant Punnet Square Activity |
|---|---|---|---|---|---|
| Unit 4  | Chapter 13 The Cardiovascular system | -Describe the structure & function of heart & blood vessels  
-Trace the pathway of blood flow through the body  
-Explain the heart contraction cycle  
-Describe various cardiovascular diseases and conditions | Lecture/Notes Labs, # 34-38  
Key terms Pg. 344  
Questions Pg. 381  
Heart Dissection | Hole’s: *Essentials of Human Anatomy and Physiology*  
Lab Manual  
Anatomy Coloring Book  
Dissection Tools, Blood Pressure Cuffs | Chapter 13 Objective Test  
Pig or Cat Heart Dissection  
Paper, Pamphlet or Poster project on a cardiovascular disease |
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**4th Quarter**

**Unit 4**  
**Chapter 14**  
The Lymphatic System and Immunity  
**B2.3d**  
**B2.r6e**  
- Describe how body defenses work, list two major types  
- Identify major components of the lymphatic system (nodes, fluid, vessels)  
- Lecture/Notes  
  Labs, # 39  
  Key terms Pg. 383  
  Questions Pg. 407-08  
- Movie clip: The Flu (unitedstreaming.com)  
- Optional Movie: *Outbreak*  
- Hole’s: *Essentials of Human Anatomy and Physiology*  
- Lab Manual  
- Anatomy Coloring Book  
- Article: *AIDS, Bug Chasers*  
- Lymphatic System Quiz  
- Article Review

**Unit 5**  
**Chapter 15**  
The Digestive System and Nutrition  
**B2.2f**  
**B2.3d**  
**B2.3f**  
**B2.r6e**  
- Identify organs of the digestive system and explain the functions  
- List the 6 major nutrient categories  
- Describe the role of nutrients and minerals in promoting healthy lifestyle  
- Lecture/Notes  
  Labs, # 40-41  
  Key terms Pg. 411  
  Questions Pg. 449-50  
- Movie and Discussion: *Super-size me*  
- Online Tutorial:  
  [http://library.thinkquest.org/15401/learn.html](http://library.thinkquest.org/15401/learn.html)  
- Hole’s: *Essentials of Human Anatomy and Physiology*  
- Lab Manual  
- Anatomy Coloring Book  
- Dissection Tools  
- Chapter 15 Objective Test  
- Cat or Rat Dissection  
- Nutrition Discussion

**Unit 5**  
**Chapter 16**  
The Respiratory System  
**B2.3d**  
**B2.3f**  
**B2.r6e**  
- Describe the structure and function of the organs of the respiratory system  
- Explain how the respiratory system works with other systems in the body.  
- Lecture/Notes  
  Labs, # 42-43  
  Key terms Pg. 452  
  Questions Pg. 476-77  
- Lung Model, Smoking Demo  
- Online Tutorial:  
  [http://library.thinkquest.org/](http://library.thinkquest.org/)  
- Hole’s: *Essentials of Human Anatomy and Physiology*  
- Lab Manual  
- Anatomy Coloring Book  
- Lab Materials  
- Smoking Demo  
- Chapter 16 Objective Test  
- Lung Model Assignment
<table>
<thead>
<tr>
<th>Unit 5</th>
<th>Chapter 17</th>
<th>The Urinary System</th>
<th>-Identify the parts and functions of the kidneys -Explain how the kidney’s are important to survival, how we keep them healthy</th>
<th>Lecture/Notes Labs, # 44-45 Key terms Pg. 479 Questions Pg. 498-99 KICK Discussion Online Tutorial: <a href="http://library.thinkquest.org/15401/learn.html">http://library.thinkquest.org/15401/learn.html</a></th>
<th>Hole’s: <em>Essentials of Human Anatomy and Physiology</em> Lab Manual Anatomy Coloring Book National Kidney Foundation Folders &amp; Video Dissection Tools</th>
<th>Kidney Structure Quiz NKF Pre and Post Tests Cat or Rat Dissections</th>
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<tbody>
<tr>
<td><strong>B2.3d</strong> <strong>B2.3f</strong> <strong>B2.r6e</strong></td>
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<tr>
<td>Unit 6</td>
<td>Chapter 19</td>
<td>The Reproductive Systems</td>
<td>-List and identify the organs of the reproductive system in males and females</td>
<td>Lecture/Notes Labs, # 46-47 Key terms Pg. 519 Questions Pg. 547-48</td>
<td>Hole’s: <em>Essentials of Human Anatomy and Physiology</em> Lab Manual Anatomy Coloring Book</td>
<td>Reproductive Organs Quiz Cat or Rat Dissection</td>
</tr>
<tr>
<td><strong>B2.3d</strong> <strong>B2.r6e</strong> (optional)</td>
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<tr>
<td>Unit 6</td>
<td>Chapter 20</td>
<td>Human Growth and Development (optional)</td>
<td>-List the steps of embryonic development -Define pregnancy and list the events in the process of fertilization</td>
<td>Lecture/Notes Labs, Key terms Pg. 550 Questions Pg. 573 Video: The incredible human machine</td>
<td>Hole’s: <em>Essentials of Human Anatomy and Physiology</em> Lab Manual Anatomy Coloring Book</td>
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<tr>
<td><strong>B2.r6e</strong></td>
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