

Topics Biology I Test II Trimester 2018  
10<sup>th</sup> Grade

Topics	Objectives
<p>Chapter 8: Photosynthesis</p> <p>Section 1: Energy and Life.</p> <p>Pages from booklet: 43-46</p> <p>Vocabulary words: adenosine triphosphate (ATP), heterotroph, autotroph, photosynthesis</p>	<ul style="list-style-type: none"> <li>- Define, use, and apply knowledge of vocabulary words.</li> <li>- Describe the role of ATP in cellular activities.</li> <li>- Describe and label the 3 parts of ATP.</li> <li>- Use correctly the chemical equation to form ADP from ATP and vice versa.</li> <li>- Explain how ATP stores energy and release energy.</li> <li>- Explain several ways that ATP is useful for cellular processes.</li> <li>- Explain where autotrophs get the energy they need to produce food.</li> <li>- Explain where heterotrophs get the energy they need to produce food.</li> <li>- Explain the relationship between autotrophs and heterotrophs.</li> </ul>
<p>Chapter 8: Photosynthesis</p> <p>Section 2: Photosynthesis: An overview</p> <p>Pages from booklet: 47- 51</p> <p>Vocabulary words: pigment, chlorophyll, thylakoids, stroma, NADP+, light-dependent reactions, light-independent reactions.</p>	<ul style="list-style-type: none"> <li>- Define, use, and apply knowledge of vocabulary words.</li> <li>- Explain the role of light and pigments in photosynthesis.</li> <li>- Explain the role of electron carrier molecules in photosynthesis.</li> <li>- State the overall equation for photosynthesis.</li> <li>- Learn to interpret graph with light absorption and reflection by photosynthetic pigments.</li> <li>- Label the components of chloroplasts.</li> <li>- Learn the place where light-dependent and light-independent reactions.</li> <li>- Learn products and reactants of light-dependent and light-independent reactions.</li> </ul>
<p>Chapter 8: Photosynthesis</p> <p>Section 3: The Process of Photosynthesis</p> <p>Pages from booklet: 52-58</p> <p>Vocabulary words: photosystem, Electron Transport Chain, ATP synthase, Calvin Cycle.</p>	<ul style="list-style-type: none"> <li>- Define, use, and apply knowledge of vocabulary words.</li> <li>- Describe what happens during the light-dependent reactions.</li> <li>- Describe what happens in photosystem I and II.</li> <li>- Describe what happens during the light-independent reactions (Calvin Cycle and Electron Transport Chain).</li> <li>- Explain how ATP synthase works.</li> <li>- Explain C4 and CAM photosynthesis and give examples of plants that use these types of photosynthesis.</li> <li>- Identify factors that affect the rate at which photosynthesis occurs.</li> </ul>
<p>Chapter 9: Cellular Respiration and Fermentation</p> <p>Section 1: Cellular Respiration: An overview</p> <p>Pages from booklet: 59-63</p>	<ul style="list-style-type: none"> <li>- Define, use, and apply knowledge of vocabulary words.</li> <li>- Explain where organisms get the energy they need for life processes.</li> <li>- Learn the equation for cellular respiration.</li> <li>- Learn basic characteristics of each of the three stages of cellular respiration.</li> </ul>

<p>Vocabulary words: calorie, cellular respiration, aerobic, anaerobic.</p>	<ul style="list-style-type: none"> <li>- Differentiate between aerobic and anaerobic processes.</li> <li>- Identify which stages of photosynthesis are aerobic and which are anaerobic.</li> <li>- Compare photosynthesis and cellular respiration.</li> </ul>
<p>Chapter 9: Cellular Respiration and Fermentation</p> <p>Section 2: The Process of Cellular Respiration</p> <p>Pages from booklet: 64-69</p> <p>Vocabulary words: glycolysis, NAD<sup>+</sup>, Krebs Cycle, matrix.</p>	<ul style="list-style-type: none"> <li>- Define, use, and apply knowledge of vocabulary words.</li> <li>- Describe what happens during glycolysis.</li> <li>- Describe what happens during the Krebs cycle.</li> <li>- Explain how high-energy electrons are used by the Electron Transport Chain.</li> <li>- Identify how much ATP cellular respiration generates on each stage and in total.</li> </ul>
<p>Chapter 9: Cellular Respiration and Fermentation</p> <p>Section 3: Fermentation</p> <p>Pages from booklet: 70-73</p> <p>Vocabulary words: fermentation.</p>	<ul style="list-style-type: none"> <li>- Define, use, and apply knowledge of vocabulary words.</li> <li>- Explain how organisms get energy in the absence of oxygen.</li> <li>- Identify the pathways the body uses to release energy during exercise.</li> <li>- Differentiate between lactic acid fermentation and alcoholic fermentation.</li> <li>- Write correctly the equations for both types of fermentations studied.</li> <li>- Apply the use of fermentation in a long-term energy and quick energy.</li> <li>- Relate fermentation with exercise.</li> </ul>