

2015-2016 Biology Semester 1 Benchmark Review

General Resources

www.classzone.com - Sign in with username: bio1student password: ilovebio; select Florida, High School Science, and select the 2012 textbook. Select the correct chapter from the drop down menu on the left and then select the option you want (Interactive Review, Animated Biology, or Labs).

www.brainpop.com - Sign in with username: gibbs_hs and password: pinellas52

<https://ecsd-fl.schoolloop.com/BiologyEOCReview> - Select the benchmark you wish to review from the menu bar on the left, and then select the tutorial you wish to view.

Directions: Your teacher may assign you particular Benchmarks & Topics to review, based on assessment data. To help master that benchmark, select the links from left to right through the row completing each of the review materials.

Benchmark & Topic	Green Alligator Textbook & Interactive Reader: Read the corresponding pages in the text and complete any questions in the Interactive Reader.	Khan Academy: Read, watch the videos while taking notes, and answer any Skills Check Questions.	Video Clip or Animation/Tutorial: Watch the video or animation/tutorial.	Online Interactive Game or Lab: Complete the lab or play the game.	Vocabulary Quizlets: Review the vocabulary flashcards.	Exit Questions: Provide a detailed answer to each exit question.	Self-Assessment: Test yourself with these sample questions.
SC.912.L.18.1 Macromolecules	Text: Chapter 2, Sections 2.3, pages 44-48 IR: pages 25-29	Intro to Macromolecules Quick Read Carbohydrate Structure Video Lipid Structure Video DNA Structure Video RNA Structure Video Amino Acid/Protein Video	Biological Molecules-You are what you eat Macromolecules Video Refresher Brainpop: Body Chemistry Macromolecules Animation	Macromolecule virtual lab	Organic molecules	What are the four categories of macromolecules? How can you describe the basic molecular structure of each? What are the functions of each?	Sample Macromolecules & Enzymes Questions

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Also assesses SC.912.L.18.11 Enzymes	Text: Chapter 2, Section 2.5, pages 54-59 IR: pages 33-34	Activation Energy Quick Read	Enzymes and Pac-Man Video Refresher	Bioman: Enzymatic	Enzymes	How do enzymes impact the biochemical reactions that take place in our body? How do factors such as pH and temperature affect enzyme activity?	Sample Macromolecules & Enzymes Questions
SC.912.L.18.12 Properties of Water	Text: Chapter 2, Section 2.2, pages 40-42 IR: pages 22-24	Properties of Water & Hydrogen Bond Quick Read Hydrogen Bond in Water Video Water as a Solvent Video Liquid Water more Dense than Ice Video Specific Heat of Water Video Cohesion & Adhesion Quick Read Capillary Action Video Surface Tension Video Properties of Water Skill Check	Brainpop: Water Properties of Water animation Polarity Water- Liquid Awesome	Braingenie: Water Properties	Properties of Water	What are the unique properties of water that make it essential to life? How does each property support life? How do hydrogen bonding and polarity impact the special properties of water?	Sample Properties of Water Questions

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SC.912.L.14.1 Cell Theory	<p>Text: Chapter 3, Section 3.1, pages 70-71</p> <p>IR: page 37</p>	<p>Intro to Cells Quick Read</p> <p>Cell Theory Video</p>	<p>Cell Theory Discoveries Explained</p>	<p>Cell Theory quiz game</p> <p>Cell Theory quiz</p>	<p>Cell Theory</p>	<p>What are the components of Cell Theory?</p> <p>How did scientific investigations play a role in developing Cell Theory?</p>	<p>Sample Cell Theory Questions</p>
SC.912.L.14.3 Prokaryotic & Eukaryotic Cells	<p>Text: Chapter 3, Sections: 3.1, page 72 Section 3.2, pages 73-79</p> <p>IR: pages 38-42</p>	<p>Prokaryotic Cell Quick Read</p> <p>Eukaryotic Cell Quick Read</p> <p>Pro & Eukaryotic Cell Video</p> <p>Nucleus & Ribosome Quick Read</p> <p>Endoplasmic Reticulum & Golgi Bodies Video</p> <p>Endomembrane System Video</p> <p>Mitochondria & Chloroplast Quick Read</p> <p>Mitochondria Video</p> <p>Plant & Animal Cell Video</p> <p>Cell Structure Skill Check</p>	<p>Prokaryotes and Eukaryotes Video Refresher</p> <p>Assignment Discovery: Introduction to Cells</p> <p>Assignment Discovery: Eukaryotic Cells</p>	<p>Cells Alive: Animal & Plant Cell Structures</p> <p>Bioman: Animal cell</p> <p>Bioman: Build a Cell</p>	<p>Cell Structures</p>	<p>How would you use cell structures to classify a cell as prokaryotic or eukaryotic? Plant or Animal?</p> <p>How is the structure of each cell part related to its function: cytoplasm, ribosomes, nucleus, nuclear envelope, nucleolus, endoplasmic reticulum, vacuoles, mitochondria, golgi apparatus, chloroplasts, lysosomes, cell wall, cell membrane, cilia, and flagella?</p>	<p>Sample Prokaryote, Eukaryote, Cell Membrane & Transport Questions</p>

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Also Assesses SC.912.L.14.2 Cell Membrane (active and passive transport)	Text: Chapter 3, Section 3.3 pages 81-84; Section 3.4, pages 84-88 Section 3.5, pages 89-91: IR: pages 43-50	Plasma Membrane Quick Read Cell Membrane Video Concentration Gradient Video Osmosis & Tonicity Quick Read Osmosis Video Tonicity Video Diffusion & Osmosis Video Membrane, Diffusion & Osmosis Skill Check Diffusion & Passive Transport Quick Read Passive Transport Video Facilitated Diffusion Video Active Transport Quick Read Endocytosis Video Exocytosis Video Cell Transport Skill Check	Osmosis Video Refresher Brainpop: Passive Transport Diffusion and Osmosis Brainpop: Active Transport	Movement across cell membrane animation Bioman: Cell membrane game	Cell Membranes	How does the structure of the cell membrane relate to its function? What is the role of the cell membrane during passive transport? What is the role of the cell membrane during active transport?	Sample Prokaryote, Eukaryote, Cell Membrane & Transport Questions

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<p>SC.912.L.18.9 Photosynthesis & Cellular Respiration</p> <p>Also assesses: SC.912.L.18.7 Photosynthesis</p> <p>SC.912.L.18.8 Cell Respiration</p> <p>SC.912.L.18.10 ATP</p>	<p>Text: Chapter 4, Sections 4.1, 4.2, 4.4; pages 100-103, 113-114, 121</p> <p>IR: pages 53-58, 62-64</p>	<p>Photosynthesis Quick Read</p> <p>Photosynthesis Video</p> <p>Introduction to Cell Respiration Video</p> <p>Fermentation and Anaerobic Respiration Quick Read</p>	<p>Brainpop: Photosynthesis</p> <p>Photosynthesis</p> <p>Photosynthesis Video Refresher</p> <p>Cellular Respiration Animation</p> <p>Brainpop: Cellular Respiration</p> <p>Cellular Respiration Video Refresher</p>	<p>Bioman: Photosynthesis /Respiration Game</p>	<p>Photosynthesis and Cellular Respiration</p>	<p>In what ways are photosynthesis and cellular respiration interconnected on Earth?</p> <p>What are the reactants, products & function of Photosynthesis? Of Cellular Respiration?</p> <p>How does the ATP molecule allow energy to be stored and released in a cell?</p>	<p>Sample Photosynthesis, Cellular Respiration & ATP Questions</p>

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<p>SC.912.L.16.1 Mendel's Laws</p> <p>Also assesses SC.912.L.16.2 Inheritance Patterns</p>	<p>Text: Chapter 6, Sections 6.3, 6.4, 6.5; pages 177-187; Chapter 7, Sections 7.1 & 7.2; pages 200-207</p> <p>IR: pages 96-104 & 110-113</p>	<p>Mendel & His Peas Reading</p> <p>Introduction to Heredity Video</p> <p>Punnett Square Fun Video</p> <p>Law of Segregation Reading & Checks</p> <p>Law of Independent Assortment Reading & Checks</p> <p>Overview of Variations on Mendel's Laws Quick Read</p> <p>Variations on Mendel's Laws Reading</p> <p>Sex Linked Traits Video</p> <p>Classical Genetics Skill Check</p>	<p>Brainpop: Genetics</p> <p>Brainpop: Mendel</p> <p>Mendel animation</p> <p>Beginner's Guide to Punnett Squares</p> <p>Monohybrid Crosses Video Refresher</p> <p>Dihybrid Crosses Video Refresher</p> <p>Sex-linked Traits Video Refresher</p> <p>Multiple Alleles Video Refresher</p> <p>Incomplete & Codominance, Polygenic Traits Video Refresher</p>	<p>Mendels Laws Interactive</p>	<p>Genetics</p>	<p>How do Mendel's Laws of Segregation and Independent Assortment impact inheritance patterns?</p> <p>How do codominance, incomplete dominance, multiple alleles, sex-linkage, and polygenic inheritance impact inheritance patterns?</p>	<p>Sample Mendel's Laws & Inheritance Patterns Questions</p>

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<p>SC.912.L.16.3 DNA</p> <p>Also Assesses SC.912.L.16.5 Transcription & Translation</p> <p>SC.912.L.16.4 Mutations</p>	<p>Text: Chapter 8, Sections 8.3, 8.4, 8.5, 8.7; pages 235-247; 252-255</p> <p>IR: pages 127-138; 142-14</p>	<p>Nucleic Acid Reading</p> <p>DNA Video</p> <p>Molecular Structure of DNA Video</p> <p>Antiparallel Structure Video</p> <p>Mode of DNA Replication Reading</p> <p>DNA Replication, Transcription & Translation Video</p> <p>Alleles & Genes Video</p> <p>The Genetic Code Reading</p> <p>Transcription Reading</p> <p>Translation Reading</p>	<p>Brainpop: DNA</p> <p>DNA Structure & Function Video Refresher</p> <p>Khan Academy DNA Structure and replication</p> <p>DNA Replication Video Refresher</p> <p>Brainpop: RNA</p> <p>RNA vs DNA Video Refresher</p> <p>Protein Synthesis Video Refresher</p> <p>Brainpop: Genetic Mutations</p> <p>Genetic Mutation Video Refresher</p> <p>Mutations Explanation</p>	<p>The Double Helix Game</p> <p>Transcribe Interactive</p> <p>Genetic Mutations lab</p>	<p>DNA replication</p>	<p>What is the basic process of DNA replication?</p> <p>What are the roles of transcription and translation in the expression of genes?</p> <p>How can a mutation in the DNA sequence of a chromosome cause a change in a person's physical appearance?</p>	<p>Sample DNA, Transcription, Translation & Mutations Questions</p>

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<p>SC.912.L.16.17 Mitosis vs Meiosis</p> <p>Also Assesses: SC.912.L.16.14 Cell Cycle & Mitosis</p> <p>SC.912.L.16.16 Meiosis</p> <p>SC.912.L.16.8 Cancer & Cell Cycle</p>	<p>Text: Chapter 5, Sections 5.1, 5.2, 5.4, pages 134-142, 146-150; Chapter 6, Sections 6.1, 6.2; pages 168-176</p> <p>IR: pages 74-81, 90-95, 105-106</p>	<p>DNA & Chromosomes Quick Read</p> <p>Chromosomes, Chromatids, Chromatin Video</p> <p>Phases of the Cell Cycle Quick Read</p> <p>Interphase Video</p> <p>Phases of Mitosis Quick Read</p> <p>Mitosis Video</p> <p>Mitosis Skill Check</p> <p>Meiosis Quick Read</p> <p>Comparing Meiosis & Mitosis Video</p> <p>Crossing Over in Meiosis Video</p> <p>Phases of Meiosis I Video</p> <p>Phases of Meiosis II Video</p> <p>Cell Division Skill Check</p> <p>Cancer & Cell Cycle Reading</p> <p>Cancer Video</p>	<p>Mitosis Video Refresher</p> <p>Mitosis Explained</p> <p>Assignment Discovery Cell Reproduction and Growth</p> <p>Mitosis Animation</p> <p>Meiosis Video Refresher</p> <p>Meiosis Animation</p> <p>Meiosis Explained</p> <p>Cell Cycle & Cancer Video Refresher</p>	<p>Cells Alive: Cell Cycle</p> <p>Cells Alive: Mitosis</p> <p>Cells Alive: Meiosis</p> <p>Bioman: Meiosis & Genetics</p>	<p>Cell Division</p>	<p>How are the processes of mitosis and meiosis both alike and different?</p> <p>Why can meiosis create genetic variation while mitosis cannot?</p> <p>What events occur in the cell cycle, including mitosis & cytokinesis?</p> <p>What events occur in meiosis, including independent assortment & crossing over?</p> <p>How does a mutation in the genes that control the cell cycle potentially result in cancer?</p>	<p>Sample Mitosis, Meiosis, Cell Cycle & Cancer Questions</p>

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SC.912.L.16.10 Biotechnology	Text: Chapter 9, Section 9.4; pages 275-279 IR: pages 154-156		Biotechnology Classzone: Biotechnology all six key concepts Chapter 9, Interactive Review: Key Concepts	Gel electrophoresis lab Chapter 9: Labs – virtual lab	Biotechnology	What is an example of biotechnology, including its potential positive and negative impacts on society?	Sample Biotechnology Questions