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| **SUGGESTED PACING** | | | | | | | | |
| **STRAND: LIFE SCIENCE (LS)**  **Topic:** **Cellular to Multicellular**  This topic focuses on the study of the basics of Modern Cell Theory. All organisms are composed of cells, which are the fundamental unit of life. Cells carry on the many processes that sustain life. All cells come from pre-existing cells.  **Content Statements:**   * Cells are the fundamental unit of life. * All living things are composed of cells. Different body tissues and organs are made of different kinds of cells. The ways cells function are similar in all living organisms.   **Content Statements:**   * All cells come from pre-existing cells. * Cells repeatedly divide resulting in more cells and growth and repair in multicellular organisms.   **Content Statements:**   * Cells carry on specific functions that sustain life. * Many basic functions of organisms occur in cells. Cells take in nutrients and energy to perform work, like making various molecules required by that cell or an organism. * Every cell is covered by a membrane that controls what can enter and leave the cell. * Within the cell are specialized parts for the transport of materials, energy capture and release, protein building, waste disposal, information feedback and movement.   **Content Statements:**   * Living systems at all levels of organization demonstrate the complementary nature of structure and function. * The level of organization within organisms includes cells, tissues, organs, organ systems and whole organisms. * Whether the organism is single-celled or multicellular, all of its parts function as a whole to perform the tasks necessary for the survival of the organism. * Organisms have diverse body plans, symmetry and internal structures that contribute to their being able to survive in their environments. | | | | | | | | |
| **PRINT RESOURCES** | | | **DIGITAL RESOURCES** | | | | | |
| *ScienceFusion*   * Unit 3, TE pages 247-238 * Unit 3, Lab Manual pages 216-294 * Unit 3, Assessment Guide pages 77-109 * Unit 4, TE pages 239-438 * Unit 4, Lab Manual pages 295-361 * Unit 4, Assessment Guide pages 110-142 | | | *ScienceFusion*   * Unit 3, Lesson 1 Digital Lesson * Unit 3, Lesson 2 Digital Lesson * Unit 3, Lesson 3 Digital Lesson * Unit 3, Lesson 3 Virtual Lab * Unit 3, Lesson 4 Digital Lesson * Unit 3, Lesson 5 Digital Lesson * Unit 3, Lesson 5 Virtual Lab | | | | | * Unit 4, Lesson 1 Digital Lesson * Unit 4, Lesson 1 Virtual Lab * Unit 4, Lesson 2 Digital Lesson * Unit 4, Lesson 3 Digital Lesson * Unit 4, Lesson 4 Digital Lesson * Unit 4, Lesson 5 Digital Lesson |
| **SCIENCE AND ACADEMIC VOCABULARY** | | | | | | | | |
| Active Transport, Algae, Angiosperm, Animalia, Archaea, Atom, Bacteria, Binary Fission, Carbohydrate, Cell, Cell Membrane, Cell Wall, Cellular Respiration, Chlorophyll, Chloroplast, Consumer, Cytoplasm, Cytoskeleton, Diffusion, Domain, Endocytosis, Endoplasmic Reticulum, Endoskeleton, Eukarya, Eukaryote, Exocytosis, Exoskeleton, Function, Fungi, Genus, Golgi Complex, Gymnosperm, Homeostasis, Host, Hyphae, Invertebrate, Lichen, Lipid, Lysosome, Mitochondrion, Mitosis, Molecule, Mycorrhiza, Nucleic Acid, Nucleus, Organ, Organ System, Organelle, Organism, Osmosis, Passive Transport, Phospholipid, Photosynthesis, Plantae, Pollen, Producers, Prokaryote, Protein, Protista, Ribosome, Seed, Species, Spore, Structure, Tissue, Vacuole, Vascular System, Vertebrate, Virus | | | | | | | | |
| **DIFFERENTIATION** | | | | **FIELD EXPERIENCE CONNECTIONS** | | | | |
| Leveled Inquiry   * Unit 3 TE pages 250, 262, 276, 290, 306, 324 * Unit 4 TE pages 342, 354, 370, 388, 404, 424   Response to Intervention   * Unit 3 TE page 251 * Unit 4 TE page 343   Differentiated Instruction (Basic, ELL, and Advanced)   * Unit 3 TE pages 265, 279, 293, 302, 309, 321, 327 * Unit 4 TE pages 357, 373, 384, 391, 407, 421, 427 | | | |  | | | | |
| **INQUIRY SKILLS** | | | | | | | | |
| * Analyzing Criteria * Analyzing Samples * Applying Concepts * Building/Constructing Models * Calculating Ratios * Classifying Materials * Comparing Results * Describing Patterns | * Developing Methods * Drawing Conclusions * Evaluating Procedures * Examining Structures * Explaining Results * Identifying Variables * Interpreting Observations/Results * Making Hypotheses | | | | | * Making Inferences * Making Observations * Making Predictions * Observing Characteristics * Organizing Results * Practicing Lab Techniques * Recognizing Patterns | | |
| **HANDS-ON INQUIRY AND APPLICATION** | | | | | | | | |
| * Unit 3, Lesson 1 Quick Lab 1: How Do Tools that Magnify Help Us Study Cells?: LM pages 216-219 * Unit 3, Lesson 1 Quick Lab 2: Investigating Cell Size: LM pages 220-223 * Unit 3, Lesson 1 Exploration Lab 1: Using a Microscope to Explore Cells: LM pages 224-233 * Unit 3, Lesson 2 Quick Lab 1: Analyzing Cell Components: LM pages 234-237 * Unit 3, Lesson 2 Quick Lab 2: Molecules for Life Processes: LM pages 238-245 * Unit 3, Lesson 3 Quick Lab 1: Comparing Cells: LM pages 246-248 * Unit 3, Lesson 3 Quick Lab 2: Making a 3-D Cell Model: LM pages 249-252 * Unit 3, Lesson 3 Quick Lab 3: Cell Walls and Wilting: LM pages 253-256 * Unit 3, Lesson 4 Quick Lab 1: Evaluating Specialization: LM pages 257-260 * Unit 3, Lesson 4 Quick Lab 2: Observing Plant Organs: LM pages 261-264 * Unit 3, Lesson 4 Exploration Lab 1: The Organization of Organisms: LM pages 265-274 * Unit 3, Lesson 5 Quick Lab 1: Investigate Microorganisms: LM pages 275-278 * Unit 3, Lesson 5 Quick Lab 2: Homeostasis and Adaptations: LM pages 279-282 * Unit 3, Lesson 5 Exploration 1: Diffusion: LM pages 283-294 * Unit 4, Lesson 1 Quick Lab 1: Using a Dichotomous Key: LM pages 295-298 * Unit 4, Lesson 1 Quick Lab 2: Investigate Classifying Leaves: LM pages 299-302 * Unit 4, Lesson 1 Exploration Lab 1: Developing Scientific Names: LM pages 303-310 * Unit 4, Lesson 2 Quick Lab 1: Observing Bacteria: LM pages 311-314 * Unit 4, Lesson 2 Quick Lab 2: Modeling Viral Replication: LM pages 315-316 * Unit 4, Lesson 2 Field Lab 1: Culturing Bacteria from the Environment: LM pages 317-326 * Unit 4, Lesson 3 Quick Lab 1: What Do Protists Look Like?: LM pages 327-331 * Unit 4, Lesson 3 Quick Lab 2: Observing a Mushroom’s Spores and Hyphae LM 332-335 * Unit 4, Lesson 3 Exploration Lab 1: Survey of Reproduction in Protists and Fungi: LM pages 336-346 * Unit 4, Lesson 4 Quick Lab 1: Investigating Flower Parts: LM pages 347-350 * Unit 4, Lesson 4 Quick Lab 2: Observing Transport: LM pages 351-354 * Unit 4, Lesson 5 Quick Lab 1: Form and Motion: LM pages 355-358 * Unit 4, Lesson 5 Quick Lab 2: Characteristics of Animals: LM pages 359-361 * STEM Unit 3: TE pages 318-321 * STEM Unit 4: TE pages 418-421 | | | | | | | | |
| **ASSESSMENTS/PROGRESS MONITORING** | | | | | | | | |
| * Formative and Summative Assessment   + Unit 3, Lesson 1 – TE page 267   + Unit 3, Lesson 2 – TE page 281   + Unit 3, Lesson 3 – TE page 295   + Unit 3, Lesson 4 – TE page 311   + Unit 3, Lesson 5 – TE page 329   + Unit 4, Lesson 1 – TE page 359   + Unit 4, Lesson 2 – TE page 375   + Unit 4, Lesson 3 – TE page 393   + Unit 4, Lesson 4 – TE page 409   + Unit 4, Lesson 5 – TE page 429 | | * Visual Summary and Lesson Review   + Unit 3, Lesson 1 – TE page 272   + Unit 3, Lesson 2 – TE page 286   + Unit 3, Lesson 3 – TE page 301   + Unit 3, Lesson 4 – TE page 317   + Unit 3, Lesson 5 – TE page 335   + Unit 4, Lesson 1 – TE page 367   + Unit 4, Lesson 2 – TE page 382   + Unit 4, Lesson 3 – TE page 400   + Unit 4, Lesson 4 – TE page 416   + Unit 4, Lesson 5 – TE page 435 | | | | | * Unit 3 Review – TE page 336-338 * Unit 4 Review – TE page 436-438 | |
| **ASSESSMENT GUIDE** | | | | | | | | |
| Unit 3   * Unit 3, Pretest : AG pages 77-78 * Lesson 1 Quiz: The Characteristics of Cells: AG pages 79 * Lesson 1 Alternative Assessment: The Characteristics of Cells: AG page 80 * Lesson 2 Quiz: Chemistry of Life: AG page 81 * Lesson 2 Alternative Assessment: Chemistry of Life: AG page 82 * Lesson 3 Quiz: Cell Structure and Function: AG page 83 * Lesson 3 Alternative Assessment: Cell Structure and Function: AG page 84 * Lesson 4 Quiz: Levels of Cellular Organization: AG page 85 * Lesson 4 Alternative Assessment: Levels of Cellular Organization: AG page 86 * Lesson 5 Quiz: Homeostasis and Cell Processes: AG page 87 * Lesson 5 Alternative Assessment: Homeostasis and Cell Processes: AG page 88 * Performance-Based Assessment: Teacher Edition: AG page 89 * Performance-Based Assessment: Student Edition: AG page 90-91 * Unit 3 Review : AG pages 92-95 * Unit 3 Test A: AG pages 96-102 * Unit 3 Test B: AG pages 103-109 | | | | | Unit 4   * Unit 4 Pretest: AG pages 110-111 * Lesson 1 Quiz: Classification of Living Things: AG page 112 * Lesson 1 Alternative Assessment: Classification of Living Things: AG page 113 * Lesson 2 Quiz: Archaea, Bacteria, and Viruses: AG page 114 * Lesson 2 Alternative Assessment: Archaea, Bacteria, and Viruses: AG page 115 * Lesson 3 Quiz: Protists and Fungi: AG page 116 * Lesson 3 Alternative Assessment: Protists and Fungi: AG page 117 * Lesson 4 Quiz: Introduction to Plants: AG page 118 * Lesson 4 Alternative Assessment: Introduction to Plants: AG page 119 * Lesson 5 Quiz: Introduction to Animals: AG page 120 * Lesson 5 Alternative Assessment: Introduction to Animals: AG page 121 * Performance-Based Assessment: Teacher Edition: AG page 122 * Performance-Based Assessment: Student Edition: AG pages 123-124 * Unit 4 Review: AG pages 125-128 * Unit 4 Test A: AG pages 129-135 * Unit 4 Test B: AG pages 136-142 | | | |
| **ACADEMIC CONNECTIONS TO OTHER DISCIPLINES:** | | | | | | | | |
| * Social Studies Connection: TE page 266 * Health Connection: TE page 266 * Health Connection: TE page 280 * Real World Connection: TE page 280 * Technology Connection: TE page 294 * Art Connection: TE page 294 * Health Connection: TE page 310 * Engineering Connection: TE page 310 * Physical Education Connection: TE page 328 * Language Arts Connection: TE page 328 | | | | | * Social Studies Connection: TE page 358 * Earth Science Connection: TE page 358 * Real World Connection: TE page 374 * Language Arts Connection: TE page 374 * Health Connection: TE page 392 * Math Connection: TE page 392 * Fine Arts Connection: TE page 408 * Real World Connection: TE page 408 * Health Connection: TE page 428 * Math Connection: TE page 428 | | | |