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| **SUGGESTED PACING** | | | | | | | | | |
| **STRAND: LIFE SCIENCE (LS)**  **Topic: Species and Reproduction**  This topic focuses on continuation of the species.  **Content Statements:**   * Diversity of species occurs through gradual processes over many generations. * Fossil records provide evidence that changes have occurred in number and types of species. Fossils provide important evidence of how life and environmental conditions have changed. * Changes in environmental conditions can affect how beneficial a trait will be for the survival and reproductive success of an organism or an entire species. * Throughout Earth’s history, extinction of a species has occurred when the environment changes and the individual organisms of that species do not have the traits necessary to survive and reproduce in the changed environment. Most species (approximately 99 percent) that have lived on Earth are now extinct.   **Content Statements:**   * Reproduction is necessary for the continuation of every species. * Every organism alive today comes from a long line of ancestors who reproduced successfully every generation. Reproduction is the transfer of genetic information from one generation to the next. It can occur with mixing of genes from two individuals (sexual reproduction). It can occur with the transfer of genes from one individual to the next generation (asexual reproduction). The ability to reproduce defines living things.   **Content Statements:**   * The characteristics of an organism are a result of inherited traits received from parent(s). * Expression of all traits is determined by genes and environmental factors to varying degrees. Many genes influence more than one trait, and many traits are influenced by more than one gene. * During reproduction, genetic information (DNA) is transmitted between parent and offspring. In asexual reproduction, the lone parent contributes DNA to the offspring. In sexual reproduction, both parents contribute DNA to the offspring. | | | | | | | | | |
| **PRINT RESOURCES** | | | **DIGITAL RESOURCES** | | | | | | |
| *ScienceFusion*   * Ohio Test-Prep Grade 8 pages 16-27 * Unit 5, TE pages 347-436 * Unit 5, Lab Manual pages * Unit 5, Assessment Guide pages * Unit 6, TE pages 437-496 * Unit 6, Lab Manual pages * Unit 6, Assessment Guide pages | | | *ScienceFusion*   * Unit 5, Lesson 1 Digital Lesson * Unit 5, Lesson 2 Digital Lesson * Unit 5, Lesson 2 Virtual Lab * Unit 5, Lesson 3 Digital Lesson * Unit 5, Lesson 4 Digital Lesson * Unit 5, Lesson 5 Digital Lesson | | | | | * Unit 5, Lesson 5 Virtual Lab * Unit 6, Lesson 1 Digital Lesson * Unit 6, Lesson 1 Virtual Lab * Unit 6, Lesson 2 Digital Lesson * Unit 6, Lesson 3 Digital Lesson | |
| **SCIENCE AND ACADEMIC VOCABULARY** | | | | | | | | | |
| Adaptation, Allele, Artificial Selection, Asexual Reproduction, Cell Cycle, Chromosomes, Codominance, Cytokinesis, DNA, Dominant, Evolution, Extinction, Extinction, Fertilization, Fossil, Fossil Record, Genes, Genotype, Geologic Time Scale, Heredity, Homologous Chromosome, Incomplete Dominance, Interphase, Meiosis, Mitosis, Mutation, Natural Selection, Pedigree, Phenotype, Probability, Punnett Square, Ratio, Recessive, Sexual Reproduction, Variation | | | | | | | | | |
| **DIFFERENTIATION** | | | | **FIELD EXPERIENCE CONNECTIONS** | | | | | |
| Leveled Inquiry   * Unit 5 TE pages 350, 362, 376, 392, 406, 422 * Unit 6 TE pages 440, 450, 466, 482   Response to Intervention   * Unit 5 TE page 351 * Unit 6 TE page 441   Differentiated Instruction (Basic, ELL, and Advanced)   * Unit 5 TE pages 365, 379, 388, 395, 409, 418, 525 * Unit 6 TE pages 453, 462, 469, 478, 485 | | | |  | | | | | |
| **INQUIRY SKILLS** | | | | | | | | | |
| * Analyzing Results/Data * Applying Concepts * Calculating Results * Classifying Information * Collecting Data * Comparing Data * Comparing Models | * Comparing Results * Creating Models * Creating/Constructing Graphs * Developing Procedures * Drawing Conclusions * Evaluating Models * Evaluating Procedures/Methods | | | | | | * Evaluating Results * Examining Evidence * Graphing Data * Identifying Patterns * Interpreting Data * Interpreting Results | | * Making Inferences * Making Observations * Making Predictions * Pooling Data * Practicing Lab Techniques * Recording Observations |
| **HANDS-ON INQUIRY AND APPLICATION** | | | | | | | | | |
| * Unit 5, Lesson 1 Quick Lab 1: Modeling Mitosis: LM pages 272-274 * Unit 5, Lesson 1 Quick Lab 2: Mitosis Flipbooks: LM pages 275-278 * Unit 5, Lesson 1 Quick Lab 3: DNA, Chromosomes, and Cell Division: LM pages 279-282 * Unit 5, Lesson 1 Exploration Lab 1: The Stages of the Cell Cycle: LM pages 283-292 * Unit 5, Lesson 2 Quick Lab 1: Meiosis Flipbooks: LM pages 293-295 * Unit 5, Lesson 2 Quick Lab 2: Crossover and Meiosis: LM pages 296-298 * Unit 5, Lesson 3 Quick Lab 1: Reproduction and Diversity: LM pages 299-302 * Unit 5, Lesson 3 Quick Lab 2: Egg vs. Sperm: LM pages 303-305 * Unit 5, Lesson 3 Quick Lab 3: Create a Classification System: LM pages 306-308 * Unit 5, Lesson 3 Field Lab 1: Investigate Asexual Reproduction: LM pages 309-315 * Unit 5, Lesson 3 Field Lab 2: Predict Impact of Variation: Plant Survival and Reproduction: LM pages 316-324 * Unit 5, Lesson 4 Quick Lab 1: Dominant Alleles: LM pages 325-327 * Unit 5, Lesson 4 Quick Lab 2: What’s the Difference Between a Dominant Trait and a Recessive Trait?: LM pages 328-331 * Unit 5, Lesson 5 Quick Lab 1: Gender Determination: LM pages 332-334 * Unit 5, Lesson 5 Quick Lab 2: Interpreting Pedigree Charts: LM pages 335-338 * Unit 5, Lesson 5 Quick Lab 3: Completing a Punnett Square: LM pages 339-341 * Unit 5, Lesson 5 S.T.E.M. Lab 1: Matching Punnett Square Predictions: LM pages 342-353 * Unit 6, Lesson 1 Quick Lab 1: Model Natural Selection: LM pages 354-357 * Unit 6, Lesson 1 Quick Lab 2: Analyzing Survival Adaptations: LM pages 358-360 * Unit 6, Lesson 1 Quick Lab 3: The Opposable Thumb: LM pages 361-364 * Unit 6, Lesson 1 Exploration Lab 1: Environmental Change and Evolution: LM pages 365-375 * Unit 6, Lesson 2 Quick Lab 1: Comparing Anatomy: LM pages 376-378 * Unit 6, Lesson 2 Quick Lab 2: Genetic Evidence for Evolution: LM pages 379-382 * Unit 6, Lesson 2 Field Lab 1: Mystery Footprints: LM pages 383-393 * Unit 6, Lesson 3 Quick Lab 1: How Do We Know What Happened When?: LM pages 394-397 * Unit 6, Lesson 3 Quick Lab 2: Investigate Relative and Absolute Age: LM pages 398-401 * STEM: TE pages | | | | | | | | | |
| **ASSESSMENTS/PROGRESS MONITORING** | | | | | | | | | |
| * Formative and Summative Assessment   + Unit 5, Lesson 1 – TE page 367   + Unit 5, Lesson 2 – TE page 381   + Unit 5, Lesson 3 – TE page 397   + Unit 5, Lesson 4 – TE page 411   + Unit 5, Lesson 5 – TE page 427   + Unit 6, Lesson 1 – TE page 455   + Unit 6, Lesson 2 – TE page 471   + Unit 6, Lesson 3 – TE page 487 | | * Visual Summary and Lesson Review   + Unit 5, Lesson 1 – TE page 372   + Unit 5, Lesson 2 – TE page 386   + Unit 5, Lesson 3 – TE page 402   + Unit 5, Lesson 4 – TE page 417   + Unit 5, Lesson 5 – TE page 432   + Unit 6, Lesson 1 – TE page 461   + Unit 6, Lesson 2 – TE page 476   + Unit 6, Lesson 3 – TE page 493 | | | | | | * Unit 5 Review – TE page 434-436 * Unit 6 Review – TE page 494-496 | |
| **ASSESSMENT GUIDE** | | | | | | | | | |
| Unit 5   * Unit 5 Pretest: AG pages 131-132 * Lesson 1 Quiz: Mitosis: AG page 133 * Lesson 1 Alternative Assessment: Mitosis: AG page 134 * Lesson 2 Quiz: Meiosis: AG page 135 * Lesson 2 Alternative Assessment: Meiosis: AG page 136 * Lesson 3 Quiz: Sexual and Asexual Reproduction: AG page 137 * Lesson 3 Alternative Assessment: Sexual and Asexual Reproduction: AG page 138 * Lesson 4 Quiz: Heredity: AG page 139 * Lesson 4 Alternative Assessment: Heredity: AG page 140 * Lesson 5 Quiz: Punnett Squares and Pedigrees: AG page 141 * Lesson 5 Alternative Assessment: Punnett Squares and Pedigrees: AG page 142 * Performance-Based Assessment: Teacher Edition: AG page 143 * Performance-Based Assessment: Student Edition: AG pages 144-145 * Unit 5 Review: AG pages 146-149 * Unit 5 Test A: AG pages 150-156 * Unit 5 Test B: AG pages 157-163 | | | | | | Unit 6   * Unit 6 Pretest: AG pages 164-165 * Lesson 1 Quiz: Theory of Evolution by Natural Selection: AG page 166 * Lesson 1 Alternative Assessment: Theory of Evolution by  Natural Selection: AG page 167 * Lesson 2 Quiz: Evidence of Evolution: AG page 168 * Lesson 2 Alternative Assessment: Evidence of Evolution: AG page 169 * Lesson 3 Quiz: The History of Life on Earth: AG page 170 * Lesson 3 Alternative Assessment: The History of Life on Earth: AG page171 * Performance-Based Assessment: Teacher Edition: AG page 172 * Performance-Based Assessment: Student Edition: AG pages 173-174 * Unit 6 Review: AG pages 175-178 * Unit 6 Test A: AG pages 179-185 * Unit 6 Test B: AG pages 186-192 | | | |
| **ACADEMIC CONNECTIONS TO OTHER DISCIPLINES:** | | | | | | | | | |
| * Language Arts Connection: TE page 366 * Math Connection: TE page 366 * Life Science Connection: TE page 380 * Music Connection: TE page 380 * Technology Connection: TE page 396 * Social Studies Connection: TE page 396 * Life Science Connection: TE page 410 * Language Arts Connection: TE page 410 * Do the Math: TE pages 318-319 | | | | | * Life Science Connection: TE page 426 * Math Connection: TE page 426 * Do the Math: TE page 430 * Social Studies Connection: TE page 454 * Earth Science Connection: TE page 454 * Fine Arts Connection: TE page 470 * Earth Science Connection: TE page 470 * Real World Connection: TE page 486 * Earth Science Connection: TE page 486 | | | | |