**  
Biology PACING GUIDE**

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| **FIRST QUARTER** | | |
| **UNIT** | **PACING** | **TOPICS** |
| **Designing and conducting an experiment** | **2 weeks** | **1. Good experimental design**  **2. Use of appropriate tools and**  **technology**  **3.Precise data**  **4. Applying qualitative and**  **quantitative measures**  **5.Free of bias**  **6.Using math to understand concepts** |
| **Biochemistry and Cells** | **7 weeks** | 1. **Bonds/Chemical Reactions** 2. **Macromolecules-Monomers & Indicators** 3. **Enzymes** 4. **Cell theory** 5. **Prokaryotic vs Eukaryotic** 6. **Structures/functions of organelles** 7. **Plasma membrane** 8. **Active/Passive transport** 9. **Types of cellular transport** |
| **SECOND QUARTER** | | |
| **UNIT** | **PACING** | **TOPICS** |
| **Cellular Energy** | **3 weeks** | 1. **ATP** 2. **Photosynthesis** 3. **Respiration** 4. **Compare/contrast photosynthesis & respiration** |
| **Cell Division** | **2 weeks** | 1. **Types of cell division** 2. **Cell cycle and growth** 3. **Mitosis and cytokinesis** 4. **Abnormal cell cycle** |
| **Meiosis and Mendelian Genetics** | **4 weeks** | **1. Meiosis**  **2. Mendelian Genetics (Punnet**  **square & probability)**  **3. Gene linkage and polyploidy**  **4. Human inheritance**  **5. Patterns of inheritance**  **6. Chromosomes & human heredity** |
| **THIRD QUARTER** | | |
| **UNIT** | **PACING** | **TOPICS** |
| **Molecular Genetics** | **4 weeks** | 1. **DNA** 2. **Replication of DNA** 3. **DNA, RNA and protein** 4. **Gene regulation and mutation** |
| **Genetic Disorders & Genetic Engineering** | **2 weeks** | 1. **Applied genetics** 2. **Recombinant DNA technology** 3. **DNA technology** 4. **The Human Genome** 5. **Identifying Genes** 6. **Bioinformatics** 7. **DNA Microarrays** 8. **The Genome & Genetic disorders** |
| **Population Ecology & Energy Flow** | **3 weeks** | 1. **Population dynamics** 2. **Human populations** 3. **Population ecology** 4. **Biomes/Ecosystems** 5. **Biodiversity** 6. **Natural Selection** 7. **Speciation** |
| **FOURTH QUARTER** | | |
| **UNIT** | **PACING** | **TOPICS** |
| **Evolution and Classification** | **3 weeks** | 1. **Evolutionary theory** 2. **Natural Selection** 3. **History of Classification** 4. **Domains and Kingdoms** |
| **Biology EOC** | **3 weeks** | **1. Preparation for EOC** |