

Biology - Formal Pacing Guide

Established: 2016-17

Revised 2023-2024

Marking Period 1

- **Unit 1 - Organic Chemistry and Cycling of Matter**(Standards: 1-2, 1-5, 1-6, 1-7,2-3, 2-4, 2-5)
- **Unit 4 - Homeostasis** (Standards: 1-2, 1-3, 1-4)
 - Introduction to Lab Safety and Lab Safety Test
 - Diagnostic Assessment
 - Chapter 8- Cell Structure and Function (10 Days)
 - Chapter 8.1-8.4
 - Resources:
 - Interactivity: Osmosis and Multicellular Life
 - Science Skills Activity: Specialized Cells
 - Simulation: Diffusion and Osmosis
 - Chapter 9- Photosynthesis (5 Days)
 - Chapter 9.1, 9.2
 - Resources:
 - Interactivity: A Model of Photosynthesis
 - Science Skills Activity: The Effect of Light on the Rate of Photosynthesis
 - Science Skills Activity: Photosynthesis and Cellular Respiration
 - Chapter 10- Cellular Respiration (5 Days)
 - Chapter 10.1, 10.3
 - Resources:
 - Interactivity: Comparing Cellular Respiration and Fermentation
 - Interactive Video: Fermentation and Exercise
 - Chapter 11- Cell Growth and Division (10 Days)
 - Chapter 11.1-11.4
 - Resources:
 - Digital Resource- Interactive Video: Maintaining Homeostasis
 - Digital Resource- Science Skills Activity: Specialized Cells
 - Chapter 2- The Chemistry of Life (5 Days)
 - Chapter 2.3, 2.4
 - Resources:
 - Digital Resource - Interactivity: Understanding Macromolecules
 - Digital Resource- Simulation: Optimum Conditions for Enzymes
 - Chapter 25 and 26- Animal Systems (5 days)
 - Resources:
 - Digital Resource- Interactivity: Interacting Systems
 - Digital Resource- Science Skills Activity: Regulating Blood Temperature

Marking Period 2

- **Unit 5- Heredity: DNA and Genetics** (Standards: 1-1, 3-1,3-2, 3-3)
 - Chapter 12- Introduction to Genetics (10 Days)
 - Chapter 12.1-12.4
 - Resources:
 - Digital Resource- Science Skills Activity: Guinea Pig Genetics
 - Digital Resource- Simulation: Dominant or Recessive?

- Modeling Lab- A Model of Meiosis
- Chapter 13- DNA (5-10 Days)
 - Chapter 13.1-13.3
 - Resources:
 - Interactivity- Analyzing DNA Structure
 - Digital Resource- Science Skills Activity: Replicating DNA
- Chapter 14- RNA and Protein Synthesis (10 Days)
 - Chapter 14.1-14.4
 - Resources:
 - Digital Resource- Science Skills Activity: Where is RNA made and Where does it go?
 - Digital Resource- Science Skills Activity: Investigating Point Mutations
 - Interactivity- DNA and RNA
- Chapter 15- The Human Genome (10 Days)
 - Chapter 15.1-15.3
 - Resources:
 - Digital Resource- Simulation: Color Blindness
 - Digital Resource- Interactivity: Manipulating DNA
- Chapter 16- Biotechnology (5-10 Days)
 - Chapter 16.1-16.4
 - Resources:
 - Digital Resource- Interactive Video: Diversity in Purebred Dogs
 - Digital Resource- Science Skills Activity: Identifying Individuals

Marking Period 3

- **Unit 6 - Biological Evolution** (Standards: 2-8, 4-1, 4-2, 4-3, 4-4, 4-5)
 - Chapter 17- Darwin's Theory of Evolution (10 Days)
 - Chapter 17.1-17.4
 - Resources:
 - Digital Resource- Interactive Video: Development of Darwin's Theory
 - Digital Resource- Simulation: Bird Beaks
 - Digital Resource- Science Skills Activity: Darwin's Finches
 - Chapter 18- Evolution of Populations (10 Days)
 - Chapter 18.1-18.3
 - Resources:
 - Digital Resource- Science Skills Activity: Genetic Changes in Populations
 - Digital Resource- Interactivity: Speciation
 - Digital Resource- Science Skills Activity: Ring Species
 - Chapter 19- Biodiversity and Classification (10 Days)
 - Chapter 19.1-19.2
 - Resources:
 - Digital Resource- Interactive Video: Discovering New Species
 - Digital Resource- Interactivity: Cladograms
 - Digital Resource- Science Skills Activity: Shark Classification
 - Chapter 20- History of Life (10 Days)
 - Chapter 20.1-20.3
 - Resources:
 - Digital Resource- Interactivity: Evolutionary Process
 - Digital Resource- Science Skills Activity: Identifying Evolutionary Relationships

Marking Period 4

- **Unit 2 - Ecology** (Standards: 2-1, 2-6, 2-2)
- **Unit 3 - Human Impact** (Standards: 2-2, 2-7, 4-4)
 - Chapter 7- Humans and Global Change (10 Days)
 - Chapter 7.1-7.4
 - Resources:
 - Digital Resource- Engineering Interactivity: Wetland Restoration
 - Digital Resource- Science Skills Activity: Controlling Invasives
 - Earth Day activity
 - Chapter 4- Ecosystems (10 Days)
 - Chapter 4.1-4.3
 - Resources:
 - Digital Resource- Interactivity: Ecological Pyramids
 - Digital Resource- Science Skills Activity: Food Web
 - Digital Resource- Interactivity: Biogeochemical Cycles
 - Chapter 5- Populations (10 Days)
 - Chapter 5.1-5.3
 - Resources:
 - Digital Resource- Interactivity: Limiting Factors
 - Digital Resource- Science Skills Activity: Pythons in the Everglades
 - Digital Resource- Simulation: Investigate Population Growth Rates
 - Chapter 6- Communities and Ecosystem Dynamics (10 Days)
 - Chapter 6.1-6.3
 - Resources:
 - Digital Resource- Science Skills Activity: Identifying Disturbances
 - Digital Resource- Interactivity: Biodiversity in Ecosystems
 - Digital Resource- Engineering Interactivity: Designing a Rainwater Capture System