

2017-2018 Biology SOL CIP Pacing

Unit 1

BIO.1

- Scientific Investigation
- Observations
- Hypothesis
- Variables
- Graphing/data analysis
- Scientific literature
- Hypothesis, theory, law

Unit 2

BIO.2

- Water chemistry, life processes and impact
- Structure and function of macromolecules
- Enzymes
- Photosynthesis and cellular respiration

Unit 3

BIO. 3

- Cell structure and function
- Cell theory
- Prokaryotes/eukaryotes
- Organelles
- Cell membrane
- Surface Area/Volume ratio
- Cell transport

Unit 4

BIO. 5

- Cell growth and division/cycle
- Gamete formation
- Cell speculation
- History of DNA
- Model of DNA
- Genetic variation
- Structure, function, replication if nucleic acid
- Protein synthesis
- DNA technologies
- Predictions of inheritance (Mendel's Law)
- Genetics

- Limitations and misuse of genetic information

BENCHMARK

Unit 5

BIO 7

- History of Life
- Fossil Records
- Genetic Variations, environmental impacts
- Natural selection and adaptations
- Speciation
- Scientific evidence (Evolution)
- Population change

Unit 6

BIO. 6

- Fossil record interpretation
- Classification
 - Structural similarities
 - Developmental stages(embryos)
 - New discoveries

Unit 7

BIO.4

- Germ theory of infection disease
- Archaea, Bacteria, Eukarya (Life Functions)
- Human health
- Human anatomy and body systems???

Unit 8

BIO.8

- Ecology
- Populations, communities, ecosystems
- Carrying capacities
- Limiting factors
- Growth curves
- Nutrient cycling
- Energy flow through ecosystem
- Succession
- Natural events & human activities effecting ecosystems
- Flora, fauna, microorganisms of VA ecosystems