

INQUIRY**Scientific Inquiry****Process Skills**

- ___ Interpret, display, analyze and draw conclusions from the results of a scientific investigation. **Bio-01**

CONTENT**Introduction to Biology**

- ___ Describe the unifying themes of biology and characteristics of life. **Bio-02**

Ecology

- ___ Identify characteristics of biomes and ecosystems. **Bio-03**
- ___ Analyze interactions of organisms including food webs, food chains, competition, predation and food availability. **Bio-04**
- ___ Identify that fluctuations in population size are determined by the relative rates of birth, immigration, emigration, and death. **Bio-05**
- ___ Describe the causes of ecosystem disruptions: changes in climate, human activity, changes in population size. **Bio-06**

Cell Biology

- ___ Identify the similarities & differences between plant & animal cells and prokaryotes & eukaryotes. **Bio-07**
- ___ Describe how the semi-permeable membranes regulate the flow of substances in and out of the cell body. **Bio-08**
- ___ Explain the relationship between photosynthesis and cellular respiration (i.e. ATP, gas exchange). **Bio-09**
- ___ Explain the structure & function of DNA and RNA and distinguish between them. **Bio-10**
- ___ Describe protein synthesis & the role of proteins. **Bio-11**
- ___ Identify the structure and function of a chromosome. **Bio-12**

Genetics and Reproduction

- ___ Compare and contrast mitosis and meiosis. **Bio-13**
- ___ Identify and be able to apply the following concepts: trait, alleles, dominant & recessive alleles, gametes, genotype and phenotype, homozygous and heterozygous. **Bio-14**
- ___ Construct and analyze a Punnett square to determine genotypic and phenotypic ratios of offspring. **Bio-15**

Change Over Time/Evolution

- ___ Define species and explain the evolution of species by natural selection. **Bio-16**
- ___ Describe how reproductive or geographic isolation can lead to speciation. **Bio-17**
- ___ Examine evidence for evolution. **Bio-18**

Classification

- ___ Identify the major categories of biological classification: (kingdom, phylum, class, order, family, genus, and species) and recognize patterns within taxonomy. **Bio-19**
- ___ Use a dichotomous key to identify organisms. **Bio-20**

Human Body

- ___ Describe the basic structure/function and interrelationships between the human body systems: **Bio-21**
 - a. Skeletal
 - b. Muscular
 - c. Nervous
 - d. Digestive
 - e. Circulatory
 - f. Respiratory
 - g. Immune
 - h. Excretory
 - i. Endocrine

CONNECTIONS**Science Practices**

- ___ Demonstrate lab safety procedures and accepted practices of science. **Bio-22**

S/T/S (Science, Technology and Society)

- ___ Examine biological issues in light of scientific and technological knowledge and relate them to ethical issues. **Bio-23**
- ___ Describe how occupations use the scientific and technological information based on biological concepts **Bio-24**
- ___ Identify important contributions, both historical and current, that have been made by individuals and groups from various cultures to our understanding of biology. **Bio-25**