

**RCPS Curriculum Pacing Guide
2013-2014
Subject: Biology**

Week of:	SOL #	Unit	Bloom's	Objectives
Week 1 and throughout the semester	#BIO1 Scientific reasoning, logic and the nature of science	Chapter 1 Biology: The Study of Life	Remembering, Understanding, Applying, Analyzing, Evaluating, Creating	1a Observations of organisms 1b Formulation of hypotheses 1c Defining variables and designing investigations 1d Data collecting, calculations and graphing 1e Forming conclusions based on data 1f Determining sources of error 1g Determining validity of data 1h Safe use of chemicals and equipment 1i Using appropriate technology 1j Research utilizes scientific literature 1k Differentiation between hypothesis, theory and law 1l Recognizing alternative explanations
Week 2	#BIO2 Chemical and Biochemical Principles #BIO8 Dynamic equilibria within populations, communities, and ecosystems	Chapter 6 The Chemistry of Life Chapter 2 Principles of Ecology Chapter 3 Communities and Biomes Chapter 4 Population Biology Chapter 5 Biological Diversity/Conservation	Remembering, Understanding, Applying, Analyzing, Evaluating, Creating	2a Water chemistry and its impact on life 2b Structure and functions of macromolecules 2c Nature of enzymes 8a Interactions among populations 8b Nutrient cycling and energy flow 8c Succession patterns 8d Effects of natural events and human activities on ecosystems 8e Analysis of organisms in Virginia ecosystems

Weeks 3 and 4	#BIO3 Relationships Between Cell Structure and Function #BIO 5 Common Mechanisms of Inheritance and Protein Synthesis	Chapter 7 A View of the Cell Chapter 8 Cellular Transport and the Cell Cycle	Remembering, Understanding, Applying Analyzing, Evaluating, Creating	3a Evidence supporting the cell theory 3b Characteristics of prokaryotic and eukaryotic cells 3c Similarities between the activities, of the organelles in a single cell and a whole organism 3d The cell membrane model 3e The impact of surface area to volume ratio on cell division, material transport, and other life processes 5a Cell growth and division
Week 5	#BIO 2 Chemical and Biochemical Principles	Chapter 9 Energy in a Cell	Remembering, Understanding, Applying, Analyzing, Evaluating	2d The capture, storage, transformation, and flow of energy through the processes of photosynthesis and respiration
Weeks 6 and 7	#BIO.5 Common Mechanisms of Inheritance and Protein Synthesis	Chapter 10 Mendel And Meiosis Chapter 11 DNA: The Molecule of Heredity Chapter 12 Mendelian Inheritance of Human Traits	Remembering, Understanding, Applying Analyzing, Evaluating	5b Gamete formation 5c Cell specialization 5d Prediction of inheritance traits based on the Mendelian laws of heredity 5e Historical development of the structural of DNA 5f Genetic variation 5g The structure, function and replication of of nucleic acids 5h Events involved in the construction of proteins 5i Use, limitations, and misuse of genetic information 5j Exploration of the impact of DNA technologies
Week 7	#BIO.1,2,3 and 5	First Benchmark Test	All of Blooms	All of SOLs BIO.1, BIO.2, BIO.3, BIO.5, BIO.8

Week 7	#BIO.7 How populations change through time	Chapter 14 The History of Life Chapter 15 The Theory of Evolution Chapter 16 Primate Evolution	Remembering, Understanding, Applying, Analyzing, Evaluating	7a Evidence found in fossil records 7b How genetic variation, reproductive strategies, and environmental pressures impact the survival of populations. 7c How natural selection leads to adaptations 7d Emergence of new species 7e Scientific evidence and explanations for biological evolution
Week 8	#BIO.6 Bases for Modern Classification Systems	Chapter 17 Organizing Life's Diversity	Remembering, Understanding, Applying, Analyzing, Evaluating, Creating	6a Structural similarities among organisms 6b Fossil record interpretation 6c Comparison of developmental stages in different organisms 6d Examination of biochemical similarities and differences among organisms 6e Systems of classification that are adaptable to new scientific discoveries
Week 8 and 9	#BIO.4 Life Functions of Organisms	Chapter 18 Viruses and Bacteria Chapter 19 Protists Chapter 20 Fungi	Remembering, Understanding, Applying, Analyzing, Evaluating	4a Comparison of their metabolic activities 4b Maintenance of homeostasis 4c How the structure and functions vary among and within the Eukarya kingdoms of protists, fungi, plants, and animals including humans 4e How viruses compare with organisms 4f Evidence supporting the germ theory of infectious disease
Week 10	All SOLs so far	Mid-Course exam		
Week 10	#BIO.4 Life Functions of Organisms	Chapter 21 What is a plant? Chapter 22 The Diversity of Plants Chapter 23 Plant	Remembering, Understanding, Applying, Analyzing, Evaluating	4a Comparison of their metabolic activities 4b Maintenance of homeostasis 4c How the structures and functions vary among and within the Eukarya kingdoms of protists, fungi, plants and animals including

		Structure and Function Chapter 24 Reproduction in Plants		humans
Week 11	#BIO.4 Life Functions of Organisms	Chapter 26 Sponges, Cnidarians, Flatworms, and Roundworms Chapter 27 Mollusks and Segmented Worms	Remembering Understanding, Applying, Analyzing, Evaluating	4a Comparison of metabolic activities 4b Maintenance of homeostasis 4c How the structures and functions vary among and within the Eukarya kingdoms of protists, fungi, plants and animals including humans
Week 12	#BIO.4 Life Functions of Organisms	Chapter 28 Arthropods Chapter 29 Echinoderms and Invertebrate Chordates	Remembering, Understanding, Applying, Analyzing, Evaluating	4a Comparison of metabolic activities 4b Maintenance of homeostasis 4c How the structures and functions vary among and within the Eukarya kingdoms of protists, fungi, plants and animals including humans
Week 13	#BIO.4 Life Functions of Organisms	Chapter 30 Fishes and Amphibians Chapter 31 Reptiles and Birds	Remembering, Understanding, Applying, Analyzing, Evaluating	4a Comparison of metabolic activities 4b Maintenance of homeostasis 4c How the structures and functions vary among and within the Eukarya kingdoms of protists, fungi, plants and animals including humans
Week 14	#BIO.4 Life Functions of Organisms	Chapter 32 Mammals Chapter 34 Protection, Support, and Locomotion	Remembering, Understanding, Applying, Analyzing, Evaluating	4a Comparison of metabolic activities 4b Maintenance of homeostasis 4c How the structure and functions vary among and within the Eukarya kingdoms of protists, fungi, plants and animals including humans 4d Human health issues, human anatomy,

				and body systems.
Week 15	#BIO.1-BIO.8	Second Benchmark Test	All of Bloom's	All of SOLs BIO.1, BIO.2, BIO.3, BIO.4, BIO.5, BIO.6, BIO.7, BIO.8
Week 15 and 16	#BIO.4 Life Functions of Organisms	Chapter 35 The Digestive and Endocrine Systems Chapter 36 The Nervous System	Remembering, Understanding, Applying, Analyzing, Evaluating	4a Comparison of metabolic activities 4b Maintenance of homeostasis 4c How the structure and functions vary among and within the Eukarya kingdoms of protists, fungi, plants and animals including humans 4d Human health issues, human anatomy, and body systems
Week 16	#BIO.1-BIO.8	SOL Review and Test	All of Bloom's	All of SOLs BIO.1, BIO.2, BIO.3, BIO.4, BIO.5, BIO.6, BIO.7, BIO.8
Week 17	#BIO.4 Life Functions of Organisms	Chapter 37 Respiration, Circulation, and Excretion Chapter 38 Reproduction and Development	Remembering, Understanding, Applying, Analyzing, Evaluating	4a Comparison of metabolic activities 4b Maintenance of homeostasis 4c How the structure and functions vary among and within the Eukarya kingdoms of protists, fungi, plants and animals including humans 4d Human health issues, human anatomy, and body systems
Week 18	#BIO.1-BIO.8	Final Exam Review and Exam	All of Bloom's	All of SOLs BIO.1, BIO.2, BIO.3, BIO.4, BIO.5, BIO.6, BIO.7, BIO.8
