

Biology II - Text: The Living World, 5th ed.

	CONCEPTS LEARNED	LEVEL	Chapter	Teaching Notes		STATE GOALS
				Labs/Activities		
I. Classification of organisms						13.A.4C 13.A.4D
	How scientists classify organisms: a. History of scientific classification b. Current classification schemes: 6 Kingdom & 3 Domain Models. c. How to build & read a family tree: cladograms & phylogenetic trees	P,M	18		How to read & construct a phylogenetic tree	
II. Prokaryotes and Viruses						
	Origin of Life a. How cells arose	P	19			11.A.4B 12.A.5A 12.B.4A
	Prokaryotes a. Structure b. Prokaryotes vs Eukaryotes c. Divisions: Archaea and Bacteria d. Prokaryote lifestyle	P		Microscope - prokaryote vs eukaryote Lab - bacterial growth		12.B.5B
	Viruses a. Structure b. Replication cycles c. Diseases	P		Lab - virus transmission		
III. Eukaryotes: Evolution						
	Origin of eukaryotic cells a. Endosymbiotic theory b. Evolution of sex	I,P	20			12.B.5B 13.A.4C 13.A.5B
IV. Eukaryotes: Protists						
	a. General biology b. Classification c. Lifestyle: heterotrophs, phototrophs	P	20	Lab - pond water Microscope - protist diversity		12.A.4B 12.A.5A 13.A.5B
V. Fungi						
	a. Structure b. Diversity and classification c. Ecology	P	21			12.A.4B 12.A.5A 12.B.4A

VI. Evolution of Animal Phyla

Animal Overview	I,P	25		12.A.4B 12.A.4C 12.A.5A
a. General features of animals				
c. Body plan of animals				
d. Embryonic development				
Simple animals	I,P			
a. Sponges			Lab - exploring the body plan of a sponge	
b. Cnidarians				
Animals with bilateral symmetry : evolution, classification & comparison:	I,P			
a. Flat and round worms			Lab - planarian regeneration	
b. Mollusks			Lab - planarian behavior	
c. Segmented worms			Lab - clam or squid anatomy	
d. Arthropods			Lab - earthworm anatomy	
e. Echinoderms			Lab - crayfish anatomy	
f. Chordates			Lab - starfish anatomy	

VII. History of Vertebrates

Vertebrate evolution	P	26		12.A.4B
Evolution, classification & comparison of vertebrate classes	P,M			
a. Fishes			Lab - fish anatomy	
b. Amphibians			Lab - frog anatomy	
c. Reptiles				
d. Birds				
e. Mammals			Lab - rat anatomy	

VIII. Human evolution

a. Evolution of primates	I,P	27		12.A.4C
b. First hominids				
c. First humans				
d. Modern humans				

IX. Animal body & how it move

a. Animal body plan	P	28	Fetal pig dissection will be used	
b. Tissues of vertebrate body			Microscope - tissue lab	
c. Skeletal and muscular systems			Lab - human bone identification	

X. Essentials of anatomy & physiology

Circulation	P	29	Lab - muscles of fetal pig	
a. Evolution of vertebrate circulation			Lab - human heart anatomy - models	12.A.4B
b. Human circulatory system			Lab - fetal pig circulation	
Respiration	P	30	Lab - fetal pig respiratory system	
a. Types of respiration: diffusion, gills, skin, lungs				
b. Respiration in vertebrates				
Digestion	P	31	Lab - human digestive system with models	
a. Food energy and nutrients			Lab - fetal pig digestive system	
b. Digestion in different animals				
c. Mammalian digestive system - structures and function				
Homeostasis	P	32	Lab - fetal pig urinary system	
a. How animals maintain homeostasis			Lab - human urinary system with models	
b. Urinary system - water regulation				
Immune system	P	33		
a. 3 lines of defense				
b. Immune response				
Nervous system	P	34	Lab - exploring the senses	
a. Neurons - structure and function				
b. Central nervous system - brain and spinal cord				
c. Peripheral nervous system - voluntary and autonomic nervous system.				
d. Sensory nervous system - taste, smell, hearing, touch, vision				
Endocrine system	P	35		
a. Hormones - description and function				
b. Major endocrine glands				
Reproduction and Development	P	36	Lab - fetal pig reproductive system	
a. Vertebrate reproduction				
b. Human reproductive system				
c. Embryonic development				