Oak Ridge Biology Common Pacing Guide

	Week	Topic	CLE #	Standard	CC #	Activities
Unit 1: Cells	1-2	Intro				
		Scientific Method/Lab Safety/Graphing	CLE 3210.Inq.2 CLE 3210.Inq.3	-Design and conduct scientific investigations to explore new phenomena, verify previous results, test how well a theory predicts, and compare opposing theories. -Use appropriate tools and technology to collect precise and accurate data.	RST.9-10.3 RST.9-10.6 RST.9-10.7 RST.9-10.8 WHST.9-10.2 WHST.9-10.4	Label Microscope Microscope Intro Lab Gro Alligator Graphing Lab Peanut Lab Music Lab
	3-4	Biochemistry Intro to Biology	CLE 3210.1.2	-Distinguish among the structure and function of the four major organic macromolecules found in living things.	RST.9-10.1 RST.9-10.3 RST.9-10.4	pH Lab Testing for biomolecules Organic food reading
	5-6	Cells Cell Theory Prokaryotes/Eukaryotes Organelles Plant vs Animal	CLE 3210.1.1 CLE 3210.5.2	-Compare the structure and function of cellular organelles in both prokaryotic and eukaryotic cells. - Analyze the relationship between form and function in living things.	RST.9-10.3 WHST.9-10.4	Prok vs Euk Posters Organelle Flashcards Cell Stories Cell Models Observing Cells Microscope Lab
	7-8	Membrane & Transport	CLE 3210.1.5	-Compare different models to explain the movement of materials into and out of cells.	RST.9-10.1 RST.9-10.3 RST.9-10.7	Transport Dance Gummy Bear Lab Membrane Models Osmosis is Serious Business
	8-9	Energy and Enzymes Photosynthesis Cellular Respiration	CLE 3210.3.3 CLE 3210.1.3 CLE 3210.3.2	- Investigate the relationship between the processes of photosynthesis and cellular respiration. -Describe how enzymes regulate chemical reactions in the body. - Distinguish between aerobic and anaerobic respiration.	RST.9-10.3 RST.9-10.7 RST.9-10.9	Potato Lab Enzyme Models BMB Lab Leaf disk lab Light spectrum lab
		Review & Unit 1 Exam				

Unit 2: Genetics	10-11	DNA & Protein Synthesis	CLE 3210.4.1 CLE 3210.4.2 CLE 3210.4.6	- Investigate how genetic information is encoded in nucleic acids. - Describe the relationships among genes, chromosomes, proteins, and hereditary traits. - Describe the connection between mutations and human genetic disorders.	RST.9-10.3 WHST.9-10.2	Replication WS DNA Model Lab Translation WS DNA Extraction Protein Synthesis Modeling Writing from the POV of Franklin
	12-13	Cell Division (Mitosis & Meiosis)	CLE 3210.1.4 CLE 3210.4.5	- Describe the processes of cell growth and reproduction. - Recognize how meiosis and sexual reproduction contribute to genetic variation in a population.	RST.9-10.3	Mitosis Posters Meiosis WS with walkthrough Compare & Contrast
	14-15	Mendel & Punnett Squares (Mendelian, Codominant, Incomplete Dominance, Multiple Alleles (blood type)) Polygenic Inheritance Dihybrid Crosses	CLE 3210.4.3 CLE 3210.4.4 CLE 3210.4.6	- Predict the outcome of monohybrid and dihybrid crosses. - Compare different modes of inheritance: sex linkage, co-dominance, incomplete dominance, multiple alleles, and polygenic traits. - Describe the connection between mutations and human genetic disorders.	RST.9-10.4 WHST.9-10.2	Punnett Square WS Write your own problems Make a Baby Lab Variations on a Face Bikini Bottom WS Writing from the POV Mendel
	16-18	Pedigrees, Sex-linked Traits, Test Crosses, Working Backward	CLE 3210.4.3	- Predict the outcome of monohybrid and dihybrid crosses.	RST.9-10.4	Blue ppl of KY Colorblindness Hemophilia Create your own genetic word problem
		Karyotypes, Genetic Engineering	CLE 3210.4.7	- Assess the scientific and ethical ramifications of emerging genetic technologies.	RST.9-10.2 RST.9-10.6 RST.9-10.9 WHST.9-10.1 WHST.9-10.8	Designer Babies Discussion Who Ate the Cheese Simulation Biotech brochures
		Review & Unit 2 Exam				

Unit 3: Evolution	19-20	Intro to Evolution	CLE 3210.5.4	-Summarize the supporting evidence for the theory of evolution.	RST.9-10.6	Scopes Monkey Trial Discussion Earth Events card sort
		History of Life (Prehistoric Earth, origin of cells, endosymbiont theory)	CLE 3210.5.3	- Explain how genetic variation in a population and changing environmental conditions are associated with adaptation and the emergence of new species.	RST.9-10.7 WHST.9-10.2	PreSurvey Inherit the Wind Beliefs Discussion (NOT debate) Bill Nye Evolution Video Fossil Lab Half life lab
		Darwin & Natural Selection (Including selection on polygenic traits and speciation)	CLE 3210.5.1 CLE 3210.5.2 CLE 3210.5.3 CLE 3210.5.5	- Associate structural, functional, and behavioral adaptations with the ability of organisms to survive under various environmental conditions. - Analyze the relationship between form and function in living things. - Explain how genetic variation in a population and changing environmental conditions are associated with adaptation and the emergence of new species. - Explain how evolution contributes to the amount of biodiversity.	RST.9-10.3 WHST.9-10.1 WHST.9-10.2 WHST.9-10.4	Natural Selection Story Speciation Lab Writing from the POV of Darwin and Lamarck
	21-22	Mechanisms, Evidences, Uses of Evolution	CLE 3210.5.4	-Summarize the supporting evidence for the theory of evolution.	RST.9-10.9 WHST.9-10.4	Newspaper Story Resistance Graphs
		Adaptations	CLE 3210.5.1	-Associate structural, functional, and behavioral adaptations with the ability of organisms to survive under various environmental conditions.	WHST.9-10.9	Seed/Adaptation Lab Article about Human Adaptations
	23-24	Classification, Dichotomous Key, Phylogenetic Trees	CLE 3210.5.5 CLE 3210.5.6	- Explain how evolution contributes to the amount of biodiversity. - Explore the evolutionary basis of modern classification systems.	RST.9-10.3	Make Your Own Dichotomous Key or Phytogenetic Tree using class members, beans, tools Bird Key Rotation

		Review & Unit 3 Exam				

Unit 4: Ecology	25-26	Intro to Ecology, Levels of Organization	CLE 3210.2.1	-Investigate how the dynamic equilibrium of an ecological community is associated with interactions among its organisms.	RST.9-10.5	Levels Flip chart
		Food Chains & Webs	CLE 3210.2.1 CLE 3210.3.1	- Investigate how the dynamic equilibrium of an ecological community is associated with interactions among its organisms. - Analyze energy flow through an ecosystem.	RST.9-10.3	Magazine food web 3D Pyramid
		Interrelationships (Symbiosis & Predation)	CLE 3210.2.1	- Investigate how the dynamic equilibrium of an ecological community is associated with interactions among its organisms.	RST.9-10.5	Pred/Prey Simulation
		Cycles and Succession	CLE 3210.2.4 CLE 3210.3.4	-Describe the sequence of events associated with biological succession. -Describe the events which occur during the major biogeochemical cycles.	RST.9-10.10	Cycles posters
	27-28	Biomes	CLE 3210.5.1	-Associate structural, functional, and behavioral adaptations with the ability of organisms to survive under various environmental conditions.	RST.9-10.10	Biome Rotations Biome brochure Biome Biome survival guide
		Population Growth	CLE 3210.2.2	-Analyze and interpret population data, graphs, or diagrams.	RST.9-10.7	Human population Graph Pop clock circle
		Effects of Humans on the Environment	CLE 3210.2.3	-Predict how global climate change, human activity, geologic events, and the introduction of non-native species impact an ecosystem.	RST.9-10.5	Carbon Footprint Invasive Species Lend a Hand activity
		Review & Unit 4 Exam				

EOC and After EOC	29-30	EOC Review	ALL CLEs	ALL CLEs	WHST.9-10.10	Review Games Reflect on learning in biology through writing
	31-32	EOC Testing				
	33-34	Amphibians and Frog Dissection	CLE 3210 Inq.2 CLE 3210 Inq.3	-Design and conduct scientific investigations to explore new phenomena, verify previous results, test how well a theory predicts, and compare opposing theories. -Use appropriate tools and technology to collect precise and accurate data.	RST.9-10.1 WHST.9-10.5 WHST.9-10.6 WHST.9-10.7 WHST.9-10.8	Write from POV of frog in a specific biome Frog Dissection Frog Lab Reports Student presentations on various topics
	35-36	Review & 9 weeks exam	ALL CLEs for 9 weeks	ALL CLEs for 9 weeks	WHST.9-10.10	Reflect on learning in biology through writing (i.e. write a letter to next year students on how to do well in class)