

Sterling Middle School Scope and Sequence

Life Sciences	Cycle 1: Identity & Character	Cycle 2: Connections & Associations	Cycle 3: Systems & Organizations	Cycle 3B: Explorations & Discovery
Coincident Humanities Concepts:	<ul style="list-style-type: none"> • Big Bang • Star Formation • Element Formation • Planets/Solar System Formation • Life Emerges • Humans/Collective Learning 	<ul style="list-style-type: none"> • Agriculture & Farming • Civilizations and Major Religions • Great Global Convergence 	<ul style="list-style-type: none"> • Modern Revolution • Fossil Fuels • Holocaust & Fiction/Nonfiction • Poverty & Wealth 	<ul style="list-style-type: none"> • Science Fiction • Argument & Debate • Views of the Future
Science Central Concepts	<ul style="list-style-type: none"> • Introduction to Science (Block 0) • History of Time & Phylogenetic Tree • Cell Biology • Genetics & Evolution 	<ul style="list-style-type: none"> • Structure of Multicellular Organisms • Human Anatomy • Food Chemistry / Molecular Biology • Human Nutrition 	<ul style="list-style-type: none"> • Ecosystem Interactions • Pathogens, Fungi & Parasites • Epidemics & Pandemics • Biotechnology & Applications to Social Issues 	<ul style="list-style-type: none"> • Review for EOG Test • Individual Science Research Projects (science fair, poster hall)
Science Supporting Concepts	<ul style="list-style-type: none"> • Creative Side of Science • Lab Safety • Beginning of The Universe and Life • Origins & Phylogeny • Taxonomy • Traits & Alleles • Genotype & Phenotype • Genes, Chromosomes & DNA • Mitosis vs Meiosis • Traits and the Environment • Hardy-Weinberg Equilibrium • Evidence of Evolution 	<ul style="list-style-type: none"> • Cell Anatomy • Structure of Multicellular Organisms • Cells, Tissues, Organs, & Organisms as Systems • Human Anatomy & Body Systems • Photosynthesis & Cellular Respiration • Chemistry of Food Digestion (Energy) • Proper Nutrition & Environmental Feedbacks (Fast Food Frenzy Lab) 	<ul style="list-style-type: none"> • Population Growth & Interactions • Predator/Prey Relationships & Competition (Lynx Eats the Hair Lab) • Biodiversity: Mactoinvertebrate Mayhem Game • Types of Symbiosis: Commensualism, Parasitism, & Mutualism • Food Chains, Webs, Trophic Levels & Ecological Pyramids • Animal Husbandry as Mutualism • Biotechnology, Careers & Impacts 	<ul style="list-style-type: none"> • Review for EOG Test <ul style="list-style-type: none"> - Focus on cellular biology - Focus on periodic table - Other challenging areas based on past test? • Individual Science Research Projects <ul style="list-style-type: none"> - Review the Scientific Method - Follow the Method & Experiment - Analyze, Depict, and Interpret Results - Use Statistics to State the Facts
Science Central Question(s)	<ul style="list-style-type: none"> • How does knowledge of the origins of life help to shape your identify and character? • How does diversity benefit the biological and cultural development of humanity? 	<ul style="list-style-type: none"> • How do the parts of a multicellular organism connect and function? • How do organisms and their environment connect and interact? 	<ul style="list-style-type: none"> • How do organisms interact with and respond to the biotic and abiotic components of their environment? • How are humans connected with their environment, and what are our responsibilities regarding stewardship of our world? 	<ul style="list-style-type: none"> • How can the process of science be used to increase our understanding of life and benefit others? • Why is better to trust science than our personal intuition, biases, or experiences alone when making policy decisions?
NC Science Standards Covered	<ul style="list-style-type: none"> • Earth History - 8.E.2.1, 8.E.2.2 (Brief Review Only) • Cell Biology I - 7.L.1.1, 7.L.1.2 • Genetics & Evolution - 7.L.2.1, 7.L.2.2, 7.L.2.3, 8.L.4.1, 8.L.4.2 	<ul style="list-style-type: none"> • Cell Biology II - 7.L.1.3, 7.L.1.4 	<ul style="list-style-type: none"> • Ecosystems - 8.L.3.1, 8.L.3.2, 8.L.3.3 • Structure & Function of Living Organisms - 8.L.1.1, 8.L.1.2, 8.L.2.1 	