



Alignment Document
State of Oregon and Aventa Learning Biology

Biology
2005-2007 Benchmark Blueprint

Strand	Common Curriculum Goal	Content Standard	Standard	Unit Name	Course Topic Description
SC.CM.SI Scientific Inquiry	Formulate and express scientific questions or hypotheses to be investigated.	Make observations. Formulate and express scientific questions or hypotheses to be investigated based on the observations.	SC.CM.SI.01 Based on observations and scientific concepts, ask questions or form hypotheses that can be answered or tested through scientific investigations.	Photosynthesis and Cellular Respiration Photosynthesis and Cellular Respiration	Photosynthesis Lab Enzyme Lab
SC.CM.SI Scientific Inquiry	Design safe and ethical scientific investigations to address questions or hypotheses.	Design scientific investigations to address and explain questions or hypotheses.	SC.CM.SI.02 Design a scientific investigation that provides sufficient data to answer a question or test a hypothesis.		
SC.CM.SI Scientific Inquiry	Conduct procedures to collect, organize, and display scientific data.	Collect, organize, and display scientific data.	SC.CM.SI.03 Collect, organize, and display sufficient data to facilitate scientific analysis and interpretation.	The Nature of Science and Biology Photosynthesis and Cellular Respiration Photosynthesis and Cellular Respiration	The Scientific Method Lab Enzyme Lab Photosynthesis Lab
SC.CM.SI Scientific Inquiry	Analyze scientific information to develop and present conclusions.	Analyze scientific information to develop and present conclusions.	SC.CM.SI.04 Summarize and analyze data, evaluating sources of error or bias. Propose explanations that are supported by data and knowledge of scientific terminology.	The Nature of Science and Biology The Nature of Science and Biology	The Scientific Method Lab Science and the Scientific Method

				Photosynthesis and Cellular Respiration	Photosynthesis Lab
SC.CM.LS Life Science	Understand the characteristics, structure, and functions of organisms.	Describe the characteristics, structure, and functions of organisms.	SC.CM.LS.01 Describe, explain, and compare the structure and functions of cells in organisms.	Cell Structure	Unit Exam
			SC.CM.LS.01.01 Describe how biological systems can maintain equilibrium (homeostasis).	Animal Organization	Animal Organ Systems and Homeostasis
			SC.CM.LS.01.02 Identify unique structures in cells from plants, animals, and prokaryotes.	Cell Structure	Cell Features
			SC.CM.LS.01.03 Identify cell organelles and state how their activities contribute to a particular type of cell carrying out its function.	Cell Structure	Cell Features
			SC.CM.LS.01.04 Explain the role of the cell membrane in cell transport.	Cell Structure	The Cell Membrane
			SC.CM.LS.01.05 Distinguish between active and passive transport, including diffusion and osmosis, explaining the mechanics of each.	Cell Structure	The Cell Membrane
			SC.CM.LS.01.06 Describe photosynthesis as a chemical process and part of the carbon cycle.	Photosynthesis and Cellular Respiration	Photosynthesis: Food Production
				Population Ecology	The Biosphere and Mass Extinctions
SC.CM.LS.01.07 Explain how the development of tools and technology, including microscopes, has aided in the understanding of cells and microbes.	The Nature of Science and Microscopes	Microscopes			
SC.CM.LS Life Science	Understand the transmission of traits in living things.	Understand the transmission of traits in living things.	SC.CM.LS.02 Explain laws of heredity and their relationship to the structure and function of DNA.	Genetics	Mendel and Heredity
			SC.CM.LS.02.01 Describe the structure of DNA and the way that DNA functions to control protein synthesis.	Genetics	How Proteins are Made
				Genetics	Protein Synthesis

			<p>SC.CM.LS.02.02 Recognize and understand the differences between meiosis and mitosis in cellular reproduction.</p>	<p>Cell Structure</p> <p>Cell Structure</p> <p>Cell Structure</p> <p>Cell Structure</p>	<p>Chromosomes and Cell Reproduction</p> <p>Meiosis and Sexual Reproduction</p> <p>Mitosis Lab</p> <p>Meiosis Lab</p>
			<p>SC.CM.LS.02.03 Recognize that changes in DNA (mutations) and anomalies in chromosomes create changes in organisms.</p>	<p>Cell Structure</p> <p>Genetics</p> <p>Genetics</p>	<p>Meiosis and Sexual Reproduction</p> <p>Mendel and Heredity</p> <p>The Chromosome Theory of Inheritance</p>
			<p>SC.CM.LS.02.04 Apply concepts of inheritance of traits, including Mendel's laws, Punnett squares, and pedigree, to determine the characteristics of offspring.</p>	<p>Genetics</p> <p>Genetics</p> <p>Genetics</p>	<p>Mendel and Heredity</p> <p>The Chromosome Theory of Inheritance</p> <p>Human Genetic Traits</p>
			<p>SC.CM.LS.02.05 Recognize the existence of technology that can alter and/or determine inherited traits.</p>	<p>Genetics</p>	<p>Biotechnology and the Genetics Revolution</p>
SC.CM.LS Life Science	Understand the relationships among living things and between living things and their environments.	Explain and analyze the interdependence of organisms in their natural environment.	<p>SC.CM.LS.03 Describe and analyze the effect of species, including humans, on an ecosystem.</p>	<p>Population Ecology</p> <p>Population Ecology</p>	<p>Population Growth</p> <p>Community and Ecosystem Dynamics</p>
			<p>SC.CM.LS.03.01 Predict outcomes of changes in resources and energy flow in an ecosystem.</p>		
			<p>SC.CM.LS.03.02 Explain how humans and other species can impact an ecosystem.</p>	<p>Population Ecology</p>	<p>Community and Ecosystem Dynamics</p>

			Population Ecology	The Biosphere and Mass Extinctions
		SC.CM.LS.03.03 Explain how the balance of resources will change with the introduction or loss of a new species within an ecosystem.	Population Ecology	Community and Ecosystem Dynamics
	Describe and analyze diversity of species, natural selection, and adaptations.	SC.CM.LS.04 Analyze how living things have changed over geological time, using fossils and other scientific evidence.	History of Life on Earth	History of Life Lab
		SC.CM.LS.04.01 Recognize that, over time, natural selection may result in development of a new species or subspecies.	Evolution	Evolution Lab
		SC.CM.LS.04.02 Recognize that natural selection and its evolutionary consequences provide an explanation of the fossil record as well as an explanation for the molecular similarities among varied species.	Evolution	Evolution and Genetics
		SC.CM.LS.04.03 Explain how biological evolution can account for the diversity of species developed over time.	Evolution	Descent with Modification
		SC.CM.LS.04.04 Explain the relationship between genetics, mutations, and biological evolution.	Evolution	Evolution and Genetics
		SC.CM.LS.04.05 Explain how our understanding of evolution has changed over time.	Evolution	Evolution Lab
			Evolution	Descent With Modification