



Alignment Document State of Idaho and Aventa Learning Life Science

Life Science 2005-2007 Benchmark Blueprint

Standards	Goals	Benchmarks	Unit Name	Course Topic Description
9-10.B.1 Nature of Science	9-10.B.1.1 Understand Systems, Order, and Organization	9-10.B.1.1.1 Explain the scientific meaning of system, order, and organization.	Diversity of Life	Classifying Living Things
		9-10.B.1.1.2 Apply the concepts of order and organization to a given system.	Diversity of Life	Classifying Living Things
	9-10.B.1.2 Understand Concepts and Processes of Evidence, Models, and Explanations	9-10.B.1.2.1 Use observations and data as evidence on which to base scientific explanations.	Life	Exploring Life
		9-10.B.1.2.2 Develop models to explain concepts or systems.	Life	Exploring Life
		9-10.B.1.2.3 Develop scientific explanations based on knowledge, logic and analysis.	Life	Exploring Life
	9-10.B.1.3 Understand Constancy, Change, and Measurement	9-10.B.1.3.1 Measure changes that can occur in and among systems.	Life	Exploring Life
		9-10.B.1.3.2 Analyze changes that can occur in and among systems.	Life	Exploring Life
		9-10.B.1.3.3 Measure and calculate using the metric system.	Life	Exploring Life
	9-10.B.1.4 Understand the Theory that Evolution is a Process that Relates to the Gradual Changes in the Universe and of Equilibrium as a Physical State	No objectives in Biology		
	9-10.B.1.5 Understand Concepts of Form and Function	No objectives in Biology.		

	9-10.B.1.6 Understand Scientific Inquiry and Develop Critical Thinking Skills	9-10.B.1.6.1 Identify questions and concepts that guide scientific investigations.	Life	Exploring Life
		9-10.B.1.6.2 Utilize the components of scientific problem solving to design, conduct, and communicate results of investigations.	Life	Exploring Life
		9-10.B.1.6.3 Use appropriate technology and mathematics to make investigations.	Life	Exploring Life
		9-10.B.1.6.4 Formulate scientific explanations and models using logic and evidence.	Life	Exploring Life
		9-10.B.1.6.5 Analyze alternative explanations and models.	Life	Exploring Life
		9-10.B.1.6.6 Communicate and defend a scientific argument.	Life	Exploring Life
		9-10.B.1.6.7 Explain the differences among observations, hypotheses, and theories.	Life	Exploring Life
	9-10.B.1.7 Understand That Interpersonal Relationships Are Important in Scientific Endeavors	No objectives in Biology.		
	9-10.B.1.8 Understand Technical Communication	9-10.B.1.8.1 Analyze technical writing, graphs, charts, and diagrams.	Life	Exploring Life
9-10.B.2 Physical Science	No goals or objectives in Biology.			
9-10.B.3 Biology	9-10.B.3.1 Understand the Theory of Biological Evolution	9-10.B.3.1.1 Use the theory of evolution to explain how species change over time.	Heredity and Evolution	Evolution
		9-10.B.3.1.2 Explain how evolution is the consequence of interactions among the potential of a species to increase its numbers, genetic variability, a finite supply of resources, and the selection by the environment of those offspring better able to survive and reproduce.	Heredity and Evolution	Evolution
	9-10.B.3.2 Understand the Relationship between Matter and Energy in Living Systems	9-10.B.3.2.1 Explain how matter tends toward more disorganized states (entropy).		
		9-10.B.3.2.2 Explain how organisms use the continuous input of energy and matter to maintain their chemical and physical organization.	Ecology	Life and the Environment

		9-10.B.3.2.3 Show how the energy for life is primarily derived from the sun through photosynthesis.	Life Plants	Cell Processes Plant Processes
		9-10.B.3.2.4 Describe cellular respiration and the synthesis of macromolecules.	Life	Cell Processes
		9-10.B.3.2.5 Show how matter cycles and energy flows through the different levels of organization of living systems (cells, organs, organisms, communities) and their environment.	Ecology The Human Body	Life and the Environment Nutrients and Digestion
	9-10.B.3.3 Understand the Cell is the Basis of Form and Function for All Living Things	9-10.B.3.3.1 Identify the particular structures that underlie the cellular functions.	Life	The Structure of Viruses and Cells
		9-10.B.3.3.2 Explain cell functions involving chemical reactions.	Life	Cell Processes
		9-10.B.3.3.3 Explain how cells use DNA to store and use information for cell functions.	Life	Cell Reproduction
		9-10.B.3.3.4 Explain how selective expression of genes can produce specialized cells from a single cell.	Life Heredity and Evolution	Cell Reproduction Heredity
9-10.B.4 Earth and Space Systems	No goals or objectives in Biology.			
9-10.B.5 Personal and Social Perspectives; Technology	9-10.B.5.1 Understand Common Environmental Quality Issues, Both Natural and Human Induced	9-10.B.5.1.1 Analyze environmental issues such as water and air quality, hazardous waste, forest health, and agricultural production.	Ecology	Resources and the Environment
	9-10.B.5.2 Understand the Relationship between Science and Technology	9-10.B.5.2.1 Explain how science advances technology.	Life Heredity and Evolution Heredity and Evolution Heredity and Evolution	The Structure of Viruses and Cells Cell Processes Cell Reproduction Heredity



			Diversity of Life	Protists and Fungi
			Plants	Introduction to Plants
			Plants	Plant Processes
			Animals	Introduction to Animals
			Animals	Fish, Amphibians, and Reptiles
			Ecology	Resources and the Environment
			The Human Body	Bones, Muscles and Skin
			The Human Body	Nutrients and Digestion
			The Human Body	The Circulatory System
			The Human Body	Reproduction and Growth
		9-10.B.5.2.2 Explain how technology advances science.	Life	The Structure of Viruses and Cells
			Heredity and Evolution	Cell Processes
			Heredity and Evolution	Cell Reproduction
			Heredity and Evolution	Heredity
			Diversity of Life	Protists and Fungi
			Plants	Introduction to Plants
			Plants	Plant Processes
			Animals	Introduction to Animals



			Animals	Fish, Amphibians, and Reptiles
			Ecology	Resources and the Environment
			The Human Body	Bones, Muscles and Skin
			The Human Body	Nutrients and Digestion
			The Human Body	The Circulatory System
			The Human Body	Reproduction and Growth
		9-10.B.5.2.3 Explain how science and technology are pursued for different purposes.	Life	The Structure of Viruses and Cells
			Heredity and Evolution	Cell Processes
			Heredity and Evolution	Cell Reproduction
			Heredity and Evolution	Heredity
			Diversity of Life	Protists and Fungi
			Plants	Introduction to Plants
			Plants	Plant Processes
			Animals	Introduction to Animals
			Animals	Fish, Amphibians, and Reptiles
			Ecology	Resources and the Environment
			The Human Body	Bones, Muscles and Skin



			The Human Body	Nutrients and Digestion
			The Human Body	The Circulatory System
			The Human Body	Reproduction and Growth
	9-10.B.5.3 Understand the Importance of Natural Resources and the Need to Manage and Conserve Them	9-10.B.5.3.1 Describe the difference between renewable and nonrenewable resources.	Ecology	Resources and the Environment