

Correlation to Maryland Voluntary State Curriculum - Science

CPO Science Life Science (Middle School)

Student Text and Investigation Manual

Standard #: Grade	Standard	Topic	Indicator		Volume One Student Text Page	Volume Two Investigation Manual Page	
01.A.1 6 - 8	Skills and Processes	Constructing Knowledge	Design, analyze, or carry out simple investigations and formulate appropriate conclusions based on data obtained or provided.	8	proposing an explanation	4	conduct scientific inquiry through laboratory experimentations—asking questions and making hypothesis
				12	proposing explanations		
				12	process of scientific inquiry		
				13	steps of scientific method	5	steps of scientific method
				13	designing scientific experiments	6	plan investigative procedures including formulating a hypothesis
				14	steps of scientific method		
				15	describing steps of scientific method	18	design key others can follow
				16	designing scientific experiments—including asking questions	18	revise explanations
						21	scientific inquiry
				22	steps of scientific method	25	describe steps of the scientific method
				26	steps of scientific method	27	interpret observations
				30	interpreting observations and proposing explanations	30	interpreting observations and proposing explanations
				96	proposing explanations	34	interpret observations
				149	posing explanations	39	interpreting observations
				161	scientific method—including making hypothesis	42	interpreting observations
				300	interpret observations	44	interpreting observations and posing explanations
376	scientific method	45	conduct scientific inquiry through laboratory experimentation				
434	interpret observation	47	posing explanations				

Correlation to Maryland Voluntary State Curriculum - Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Grade	Standard	Topic	Indicator	Volume One Student Text Page	Volume Two Investigation Manual Page
				434 design scientific experiments	49 interpret observations and pose explanations 52 proposing explanations from data 61 plan investigative procedure including making hypothesis 63 interpreting observations and proposing explanations 65 interpreting data and posing explanations 76 interpret observations 80 develop procedures others can follow 90 interpreting observations and proposing explanations 92 plan investigative procedure including making hypothesis 94 proposing explanations 97 interpret observations 101 design experiments 101 plan a procedure including making hypothesis

Correlation to Maryland Voluntary State Curriculum - Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Grade	Standard	Topic	Indicator	Volume One Student Text Page	Volume Two Investigation Manual Page
					108 create investigative procedures—including making hypothesis 111 interpret observations and propose explanations 111 plan investigative procedures—including formulating hypothesis 116 interpreting observations and proposing explanations 122 posing explanations 130 design experiment that someone else can follow

Correlation to Maryland Voluntary State Curriculum - Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Grade	Standard	Topic	Indicator	Volume One Student Text Page	Volume Two Investigation Manual Page		
01.B.1 6 - 8	Skills and Processes	Applying Evidence and Reasoning	Review data from a simple experiment, summarize the data, and construct a logical argument about the cause-and-effect relationships in the experiment.	17	interpretation of patterns from graphs and tables	3	analysis of error in measurement
				20	analysis of trends from data	30	analysis of errors in experiments
				21	analyze trends from data	33	identify cause and effect relationship
				21	interpretation of patterns in data	34	cause and effect relationships
				24	interpretation of patterns in data	47	identifying cause and effect relationships
				26	analyze trends in data	54	analyze trends from data
				40	patterns from observations	87	patterns in data
				190	interpretation of patterns from data	94	identify cause and effect relationships
				260	interpretation of data from charts	107	analysis of errors
						113	analyze trends from data
		113	analyze lever equilibrium data				

Correlation to Maryland Voluntary State Curriculum - Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Grade	Standard	Topic	Indicator	Volume One Student Text Page	Volume Two Investigation Manual Page
01.C.1 6 - 8	Skills and Processes	Communicating Scientific Information	Develop explanations that explicitly link data from investigations conducted, selected readings and, when appropriate, contributions from historical discoveries.	190 construct explanations supported by evidence	19 explanation based on data 70 make explanations based on evidence 76 construct explanations backed by data 77 construct explanation based on evidence 79 explanation supported by evidence 84 explanations based on evidence 85 construct explanations based on evidence 105 explanations from experiments
01.D.1 6 - 8	Skills and Processes	Technology	Explain that complex systems require control mechanisms.	76 identify and describe parts of a system found in nature 104 systems in nature	103 identify and describe parts of a system 105 identify and describe parts of a system
01.D.2 6 - 8	Skills and Processes	Technology	Analyze, design, assemble and troubleshoot complex systems.	13 design and test a model to solve a problem 423 engineering design cycle in action	

Correlation to Maryland Voluntary State Curriculum - Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Grade	Standard	Topic	Indicator	Volume One Student Text Page	Volume Two Investigation Manual Page		
01.D.3 6 - 8	Skills and Processes	Technology	Analyze the value and the limitations of different types of models in explaining real things and processes.	17	constructing a graphical model	3	constructing graphical model
				18	making graphical model from data	6	creating a graphical model from data
				19	creating graphical model from data	37	making graph from data
				47	using data tables		
				21	constructing graphical model from data	54	constructing graphical model from data
				152	recognition that scientific knowledge can be in the form of models	57	making sketches and diagrams
				170	science can be models	83	evaluate graphical model
				210	science—not just a collection of facts but can be a conceptual model	87	evaluate data from graph
				87	analyze trends from data		
				107	create and analyze graphical model from data		
				402	scientific knowledge in the form of models	113	find math rule for lever equilibrium
452	scientific knowledge can be in the form of models	153	lab notebook				
		154	making graphs				

Correlation to Maryland Voluntary State Curriculum - Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Grade	Standard	Topic	Indicator	Volume One Student Text Page	Volume Two Investigation Manual Page
03.A.1 7	Life Science	Diversity of Life	Compile evidence to verify the claim of biologists that the features of organisms connect or differentiate them—these include external and internal structures (features) and processes.	84 structure including organs and organ systems 112 adaptations of animals to different environments 116 adaptations of animals to specific environments 124 adaptations of animals to specific ecosystems 127 adaptations of animals to certain ecosystems 248 human evolution 257 adaptations of animals to certain ecosystems 259 branching diagrams of classification and evolution 260 branching diagram of evolution 262 human evolution in relationship to other organisms 262 branching diagrams of evolution 264 evolutionary history and branching 265 branching evolutionary diagrams 265 adaption of animals to certain environments	

Correlation to Maryland Voluntary State Curriculum - Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Grade	Standard	Topic	Indicator	Volume One Student Text Page	Volume Two Investigation Manual Page
				266	
					adaption of animals for certain environments
				267	
					branching diagrams
				268	
					branching diagrams
				273	
					animals are adapted to certain environments
				291	
					adaptations of animals to the environment
				307	
					branching diagrams of classifications
				308	
					branching diagram of shared characteristics
				310	
					branching diagrams of classification
				318	
					branching diagrams of evolution
				323	
					branching diagrams for classification
				324	
					branching diagrams of evolution
				334	
					structure and function
				345	
					populations
				364	
					branching diagrams of classification and evolution
				373	
					animal systems
				375	
					branching diagrams of classification

Correlation to Maryland Voluntary State Curriculum - Science

CPO Science Life Science (Middle School)

Student Text and Investigation Manual

Standard #: Grade	Standard	Topic	Indicator	Volume One Student Text Page	Volume Two Investigation Manual Page
				378 branching diagrams of evolution	

Correlation to Maryland Voluntary State Curriculum - Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Grade	Standard	Topic	Indicator	Volume One Student Text Page	Volume Two Investigation Manual Page		
03.B.1 7	Life Science	Cells	Gather and organize data to defend or argue the proposition that all living things are cellular (composed of cells) and that cells carry out the basic life functions.	29	concept of cells	38	plant tissues and organs
				33	concept of cells	38	concept of cells
				33	difference between single and multicellular organisms	39	cell structure and function
				34	different kinds and functions of cells	40	differences in plant and animal cells
				37	concept of a cell	41	structure of a cell
				44	multi vs. single celled	41	plant vs. animal cells
				135	concept of cells	42	structure of a cell
				136	basic concept of cells	42	plant vs. animal cells
				136	different function of cells	54	differences in plant and animal cells
				137	concept of cells—discovery of		
				137	difference between multi and single cellular organism		
				137	difference between plant and animal cells		
				139	cell structures and functions of structures		
				139	differences between multi and single celled organisms		
				141	concept of cells		
				142	structure and function of cell parts		

Correlation to Maryland Voluntary State Curriculum - Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Grade	Standard	Topic	Indicator	Volume One Student Text Page	Volume Two Investigation Manual Page
				143	
				144	
				145	
				146	
				147	
				153	
				154	
				155	
				156	
				159	
				171	
				173	
				174	

Correlation to Maryland Voluntary State Curriculum - Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Grade	Standard	Topic	Indicator	Volume One Student Text Page	Volume Two Investigation Manual Page	
				175	structure of protozoan cells and their functions	
				178	structure of a cell and function of organelles	
				185	structures of cells and their functions—membrane	
				189	single celled organism	
				259	all organisms are made of cells	
				277	different kind of cells—plants and animals	
				277	different kinds and functions of cells	
				311	concept of cells	
				313	different kinds of cells	
				322	concept of cells	
				353	multi-celled organisms made up of cells	
				353	structure of cells	
				358	complex organisms are made of cells	
				368	multi-cellular organisms are made up of cells	

Correlation to Maryland Voluntary State Curriculum - Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Grade	Standard	Topic	Indicator	Volume One Student Text Page	Volume Two Investigation Manual Page
03.B.2 7	Life Science	Cells	Recognize and provide examples that human beings, like other organisms have complex body systems of cells, tissues and organs that interact to support an organism's growth and survival.	35 idea of organ systems and organization cells to organisms 36 levels of organization 145 cell differentiation (liver and muscle cells are different than others) 146 cell differentiation—why cells have more or less Golgi bodies 150 animal systems—immune system 159 differentiation of cells 168 cell differentiation 169 cell differentiation 206 cell differentiation 323 plant systems 330 plant systems 331 plant systems 332 plant systems 333 plant systems 334 plant systems 336 plant systems 356 plant and animal systems 357 plant and animal systems 358 plant and animal systems	102 idea of organ systems

Correlation to Maryland Voluntary State Curriculum - Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Grade	Standard	Topic	Indicator	Volume One Student Text Page	Volume Two Investigation Manual Page
				361	
				plant and animal systems	
				362	
				plant and animal systems	
				363	
				animal systems	
				366	
				animal systems	
				367	
				animal systems	
				374	
				animal systems	
				375	
				plant and animal systems	
				405	
				plant and animal systems	

Correlation to Maryland Voluntary State Curriculum - Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Grade	Standard	Topic	Indicator	Volume One Student Text Page	Volume Two Investigation Manual Page
03.C.1 7	Life Science	Genetics	Explain the ways that genetic information is passed from parent to offspring in different organisms.	70 DNA make up and nucleic acids 71 DNA make up and nucleic acids 139 concept of DNA 140 concept of DNA 144 DNA 150 genes and how they interact with immune system 168 DNA 185 concept of DNA 188 genes and genetic make-up 196 DNA 197 concept of DNA 201 DNA 202 DNA 204 DNA and chromosomes 208 concept of genes and heredity 211 DNA 214 general idea of traits 216 inherited traits 218 concept of genes that are dominant and recessive	54 DNA forms 59 genes and inherited traits 61 dominant vs. recessive traits 62 genes and inherited traits 63 dominance vs. recessive 66 genes and inherited traits 66 DNA structure 67 DNA 68 DNA structure 69 DNA 72 inherited traits 73 inherited traits 74 inherited traits 76 inherited traits

Correlation to Maryland Voluntary State Curriculum - Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Grade	Standard	Topic	Indicator	Volume One Student Text Page	Volume Two Investigation Manual Page
				219	
				220	
				221	
				221	
				222	
				225	
				225	
				227	
				228	
				229	
				230	
				233	
				234	
				235	
				237	
				238	
				239	
				239	

Correlation to Maryland Voluntary State Curriculum - Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Grade	Standard	Topic	Indicator	Volume One Student Text Page	Volume Two Investigation Manual Page
				240	
				240	
				241	
				242	
				243	
				244	
				246	
				247	
				248	
				249	
				250	
				250	
				251	
				252	
				259	
				262	
				265	
				268	
				269	
				270	

Correlation to Maryland Voluntary State Curriculum - Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Grade	Standard	Topic	Indicator	Volume One Student Text Page	Volume Two Investigation Manual Page
				271	
				genes and inherited traits	
				272	
				genes and inherited traits	
				273	
				genes and inherited traits	
				275	
				genes and inherited traits	
				311	
				genes and traits/dominant and recessive	
				438	
				genes and inherited traits	
				439	
				genes and inherited traits	

Correlation to Maryland Voluntary State Curriculum - Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Grade	Standard	Topic	Indicator	Volume One Student Text Page	Volume Two Investigation Manual Page		
03.D.1 8	Life Science	Evolution	Recognize and describe that evolutionary change in species over time occurs as a result of natural variation in organisms and environmental changes.	47	theory of evolution	74	natural selection
				140	fossils and how they relate to evolution of species	74	evolution
				181	evolution based on fossils	81	evolution
				183	evolution of cells		
				231	natural selection		
				257	concept of natural selection		
				258	theory of evolution and evidence for it		
				259	evolution based on cell evidence and fossils		
				260	theory of evolution		
				261	evidence for theory of evolution		
				261	evolution evidence based on anatomy—analogue structures		
				262	evidence for evolution		
				263	evidence for evolution—fossils		
				264	evidence for evolution		
				265	evidence for evolution		
				266	natural selection		
				266	evidence for evolution		
				267	natural selection		

Correlation to Maryland Voluntary State Curriculum - Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Grade	Standard	Topic	Indicator	Volume One Student Text Page	Volume Two Investigation Manual Page
				268	natural selection
				269	natural selection
				270	natural selection
				271	natural selection
				272	natural selection
				273	natural selection
				275	natural selection
				291	natural selection
				293	theory of evolution
				307	theory of evolution
				311	natural selection
				318	evolution
				324	theory of evolution
				329	evolution
				353	theory of evolution
				356	evolution
				362	theory of evolution
				363	fossils
				365	fossils
				371	theory of evolution
				373	evolution
				376	evolution
				377	evolution

Correlation to Maryland Voluntary State Curriculum - Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Grade	Standard	Topic	Indicator	Volume One Student Text Page	Volume Two Investigation Manual Page
03.E.1 7	Life Science	Flow of Matter and Energy	Explain that the transfer and transformation of matter and energy links organisms to one another and to their physical setting.	73 main factors that regulate populations in an ecosystem 74 factors that regulate populations in an ecosystem 76 general factors that affect populations in the ocean 77 describe general factors regulating population in an ecosystem 85 how energy flows through an ecosystem 86 concept of producers and consumers and decomposers in ecosystems 87 how energy flows in an ecosystem 88 explain how energy flows in an ecosystem 89 how matter and energy flow in an ecosystem 89 concept of producer and consumer and decomposer 90 how matter and energy flow in an ecosystem	37 concept of producer and consumer

Correlation to Maryland Voluntary State Curriculum - Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Grade	Standard	Topic	Indicator	Volume One Student Text Page	Volume Two Investigation Manual Page
				91	
				93	
				94	
				95	
				98	
				102	
				270	
				277	
				278	
				299	
				299	
				317	
				361	

Correlation to Maryland Voluntary State Curriculum - Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Grade	Standard	Topic	Indicator	Volume One Student Text Page	Volume Two Investigation Manual Page
03.F.1 6	Life Science	Ecology	Give reasons supporting the fact that the number of organisms an environment can support depends on the physical conditions and resources available.	73 main factors that regulate populations in an ecosystem 74 factors that regulate populations in an ecosystem 76 general factors that affect populations in the ocean 77 describe general factors regulating population in an ecosystem 86 concept of producers and consumers and decomposers in ecosystems 89 concept of producer and consumer and decomposer 89 how matter and energy flow in an ecosystem 93 concepts of producer and consumer and decomposer 94 describe general factors that control population size 95 general factors that regulate populations	37 concept of producer and consumer

Correlation to Maryland Voluntary State Curriculum - Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Grade	Standard	Topic	Indicator	Volume One Student Text Page	Volume Two Investigation Manual Page
				98	concept of producers and consumers and decomposers
				102	producers and consumers
				270	general factors regulating populations in an area
				277	use the concepts of consumers in ecosystem
				278	concept of consumer
				295	how ecosystems respond to change
				298	how ecosystem responds to changes
				299	producers and consumers
				317	factors that regulate populations
				317	how ecosystem responds to changes