

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page		
11.A.3a Scientific Investigation	Understand the processes of scientific inquiry and technological design to investigate questions, conduct experiments and solve problems.	Know and apply the concepts, principles and processes of scientific inquiry.	Formulate hypotheses that can be tested by collecting data.	8	proposing an explanation	3	testing hypothesis against data
				11	testing explanations against observations	5	formulate testable hypothesis
				11	ask scientific questions	6	plan investigative procedures including formulating a hypothesis
				12	testable hypothesis	6	testing hypothesis against data
				12	proposing explanations	8	formulate testable hypothesis
				13	designing scientific experiments	8	testing hypothesis against data
				16	designing scientific experiments—including asking questions	11	formulate testable hypothesis
				30	interpreting observations and proposing explanations	18	revise explanations
				96	proposing explanations	19	explanation based on data
				149	posing explanations	21	testing hypothesis
				190	construct explanations supported by evidence	24	testing hypothesis against data
				300	interpret observations	27	interpret observations
				376	testing explanation against observation	30	interpreting observations and proposing explanations
				434	interpret observation	34	interpret observations
				434	design scientific experiments	39	interpreting observations
		42	interpreting observations				

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
					44 testing hypothesis with data
					44 interpreting observations and posing explanations
					44 formulate testable hypothesis
					47 testing hypothesis with data
					47 formulate a testable hypothesis
					47 posing explanations
					49 interpret observations and pose explanations
					51 posing testable hypothesis
					52 proposing explanations from data
					60 testing hypothesis against data
					60 make testable hypothesis
					61 plan investigative procedure including making hypothesis
					63 interpreting observations and proposing explanations
					65 interpreting data and posing explanations
					70 make explanations based on evidence

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
					76 interpret observations
					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
					90 interpreting observations and proposing explanations
					91 formulate testable hypothesis
					92 plan investigative procedure including making hypothesis
					94 proposing explanations
					97 interpret observations
					101 design experiments
					101 plan a procedure including making hypothesis
					105 explanations from experiments
					106 formulate hypothesis

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
					108 create investigative procedures—including making hypothesis 110 create hypothesis 111 interpret observations and propose explanations 111 plan investigative procedures—including formulating hypothesis 116 interpreting observations and proposing explanations 121 making hypothesis 122 posing explanations

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
11.A.3b Scientific Investigation	Understand the processes of scientific inquiry and technological design to investigate questions, conduct experiments and solve problems.	Know and apply the concepts, principles and processes of scientific inquiry.	Conduct scientific experiments that control all but one variable.	12 process of scientific inquiry 13 recognize control variables 13 designing scientific experiments 16 designing scientific experiments—including asking questions 26 recognizing variables in observations and experiments 161 scientific method—including making hypothesis	4 recognizing and controlling variables in observation and experiments 4 conduct scientific inquiry through laboratory experimentations—asking questions and making hypothesis 5 recognizing and controlling variables 7 recognizing variables 8 recognizing and controlling variables 11 recognizing and controlling variables 21 scientific inquiry 21 recognizing control variables 22 lab experiments 22 recognizing variables 23 recognizing and controlling variables in experiments 23 design and complete a scientific investigation lasting several days 24 recognizing and controlling variables in experiments

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
					29 recognizing and controlling variables
					33 identify cause and effect relationship
					34 cause and effect relationships
					45 conduct scientific inquiry through laboratory experimentation
					47 recognizing and controlling variables
					47 identifying cause and effect relationships
					94 identify cause and effect relationships
					95 identify and control variables
					101 design experiments
					106 recognize and control variables
					110 identify and control variables
					112 controlling variables
					113 controlling variables

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page		
11.A.3c Scientific Investigation	Understand the processes of scientific inquiry and technological design to investigate questions, conduct experiments and solve problems.	Know and apply the concepts, principles and processes of scientific inquiry.	Collect and record data accurately using consistent measuring and recording techniques and media.	6 7 8 14 25 179 434	length beakers and graduated cylinders using thermometers collect data with precision in mind graduated cylinders micrometers making measurements	1 1 1 4 10 23 82 82 97 99 101 103 126 127 128 131 133 133 134 134	making accurate measurements metric units (millimeters and centimeters) measurements and use of proper tools collect data with precision as a central consideration balances beakers rulers measurement measuring metric rulers conduct experiment including selecting equipment make predictions goggles goggles and aprons goggles thermometers measuring metric and English rulers metric rulers measuring

Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
					135 metric rulers 135 measuring 136 metric rulers 136 measuring 137 temperature measuring devices 138 beakers 138 thermometers 139 measuring 139 rulers 140 measuring 141 measuring 142 measuring 143 graduated cylinders 144 balances 145 balances 146 balances

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
11.A.3d Scientific Investigation	Understand the processes of scientific inquiry and technological design to investigate questions, conduct experiments and solve problems.	Know and apply the concepts, principles and processes of scientific inquiry.	Explain the existence of unexpected results in a data set.		3 analysis of error in measurement 30 analysis of errors in experiments 82 error in measurements 107 best fit line 107 analysis of errors

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page		Volume Two Investigation Manual Page	
11.A.3e Scientific Investigation	Understand the processes of scientific inquiry and technological design to investigate questions, conduct experiments and solve problems.	Know and apply the concepts, principles and processes of scientific inquiry.	Use data manipulation tools and quantitative (e.g., mean, mode, simple equations) and representational methods (e.g., simulations, image processing) to analyze measurements.	17	constructing a graphical model	3	analysis of error in measurement
				17	interpretation of patterns from graphs and tables	3	constructing graphical model
				18	making graphical model from data	6	creating a graphical model from data
				19	creating graphical model from data	30	analysis of errors in experiments
				21	constructing graphical model from data	37	making graph from data
				21	interpretation of patterns in data	47	using data tables
				24	interpretation of patterns in data	54	constructing graphical model from data
				40	patterns from observations	57	making sketches and diagrams
				190	interpretation of patterns from data	60	statistical analysis of data—frequency
				260	interpretation of data from charts	62	statistical analysis—frequency
				300	graphs	83	evaluate graphical model
						87	analyze trends from data
						87	evaluate data from graph
		87	patterns in data				
		107	analysis of errors				
		107	create and analyze graphical model from data				
		113	find math rule for lever equilibrium				

Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
					153 lab notebook 154 making graphs

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page		Volume Two Investigation Manual Page	
11.A.3f Scientific Investigation	Understand the processes of scientific inquiry and technological design to investigate questions, conduct experiments and solve problems.	Know and apply the concepts, principles and processes of scientific inquiry.	Interpret and represent results of analysis to produce findings.	16	making oral presentation of projects	3	creating and using data tables
				17	making graphs	5	creating and using lab tables
				17	interpretation of patterns from graphs and tables	6	make an oral presentation of scientific results or projects
				18	making graphs	11	creating and using data tables
				18	using data tables	16	creating data tables
				20	analysis of trends from data	21	data tables
				21	creating and using data tables	24	creating and using data tables
				21	interpretation of patterns in data	25	making an oral presentation of scientific results
				21	analyze trends from data	29	creating and using data tables
				24	interpretation of patterns in data	32	data tables
				26	analyze trends in data	36	data tables
				26	making graphs	36	written and oral communication is important to science
				40	patterns from observations	36	make oral presentation of results
				82	creating pie graph	37	data tables
				104	data tables	37	making bar graphs
				130	oral report	54	analyze trends from data

Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page		
				260	interpretation of data from charts	54	creating and using data tables
				300	data tables	56	creating and using data tables
				318	data tables	57	using data tables
				402	average	60	using data tables
						63	using data tables
						64	using data tables
						65	using data tables
						66	using data tables
						67	using data tables
						69	using data tables
						71	data tables
						75	data tables
						76	creating bar graphs
						80	make argument based on evidence
						82	averaging
						84	data tables
						85	data tables
						87	patterns in data
						88	creating data tables
						91	using data tables
						97	data tables

Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
					99 basic statistical analysis average 100 using data tables 101 using data tables 107 data tables 110 data tables 113 analyze trends from data 113 analyze lever equilibrium data 117 using data tables 119 using data tables 120 using data tables 132 data tables 136 data tables 153 data tables 155 data tables

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page		
11.A.3g Scientific Investigation	Understand the processes of scientific inquiry and technological design to investigate questions, conduct experiments and solve problems.	Know and apply the concepts, principles and processes of scientific inquiry.	Report and display the process and results of a scientific investigation.	14	lab report	6	make an oral presentation of scientific results or projects
				16	making oral presentation of projects	15	writing up scientific results
				17	making graphs	15	written communication essential to science
				18	making graphs	25	making an oral presentation of scientific results
				26	making graphs	36	written and oral communication is important to science
				82	creating pie graph	36	make oral presentation of results
				130	communicating	37	communication is important to science
				130	oral report	37	making bar graphs
				154	communicating scientific information in written form and explaining and discussing hard to grasp concepts	76	creating bar graphs
				154	making an oral presentation of a project	77	communicating
				166	explaining phenomena and related ?? are made understandable through discussion	80	communicating results
				170	present results of experiments or projects	120	communicating orally is essential to science
				235	explaining to others	130	formal lab report
				275	explaining helps to understand	131	lab report
				402	explaining	131	communicating results is essential to science
				132	writing up results		
				154	making graphs		

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
					155 formal lab report
11.B.3a Technological Design	Understand the processes of scientific inquiry and technological design to investigate questions, conduct experiments and solve problems.	Know and apply the concepts, principles and processes of scientific inquiry.	Identify an actual design problem and establish criteria for determining the success of a solution.	13 designing scientific experiments 16 designing scientific experiments—including asking questions	101 design experiments
11.B.3b Technological Design	Understand the processes of scientific inquiry and technological design to investigate questions, conduct experiments and solve problems.	Know and apply the concepts, principles and processes of scientific inquiry.	Sketch, propose and compare design solutions to the problem considering available materials, tools, cost effectiveness and safety	152 create and interpret dimensioned sketches and drawings 192 making drawings	35 lab safety 40 lab safety 50 lab safety 59 lab safety 101 conduct experiment including selecting equipment 102 lab safety 104 lab safety 109 lab safety 124 lab safety 125 lab safety 126 lab safety 127 lab safety 128 lab safety 129 lab safety

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page		Volume Two Investigation Manual Page
11.B.3c Technological Design	Understand the processes of scientific inquiry and technological design to investigate questions, conduct experiments and solve problems.	Know and apply the concepts, principles and processes of scientific inquiry.	Select the most appropriate design and build a prototype or simulation.	13 423	design and test a model to solve a problem engineering design cycle in action	

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation		Volume One Student Text Page	Volume Two Investigation Manual Page	
11.B.3d Technological Design	Understand the processes of scientific inquiry and technological design to investigate questions, conduct experiments and solve problems.	Know and apply the concepts, principles and processes of scientific inquiry.	Test the prototype using available materials, instruments and technology and record the data.	7	beakers and graduated cylinders	1	metric units (millimeters and centimeters)
				8	using thermometers	2	collect quantitative data
				25	graduated cylinders	8	collect observational data
				40	collect observational data	10	balances
				179	micrometers	12	collect observational data
				423	engineering design cycle in action	13	observational data
						14	observation
						16	collect observational data
						23	beakers
						24	collecting observational data
		29	collect observational data				
		31	make observational data				
		39	collect observational data				
		41	collect quantitative data				
		41	collecting observational data				
		44	collect qualitative data				
		44	collect observational data				
		48	collect observational data				
		54	collect quantitative data				
		60	collect quantitative data				
		82	rulers				
		82	quantitative data				

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
					88 collect observational data
					89 collect observational data
					91 collect observational data
					95 quantitative data
					97 quantitative data
					99 metric rulers
					100 collect observational data
					107 quantitative data
					110 quantitative data
					114 force scales
					117 making observational data
					120 collect observational data
					120 collect quantitative data
					126 goggles
					127 goggles and aprons
					128 goggles
					131 thermometers
					133 metric and English rulers
					134 metric rulers
					135 metric rulers
					136 metric rulers
					137 temperature measuring devices
					138 beakers

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
					138 thermometers 139 rulers 143 graduated cylinders 144 balances 145 balances 146 balances
11.B.3e Technological Design	Understand the processes of scientific inquiry and technological design to investigate questions, conduct experiments and solve problems.	Know and apply the concepts, principles and processes of scientific inquiry.	Evaluate the test results based on established criteria, note sources of error and recommend improvements.		3 analysis of error in measurement 30 analysis of errors in experiments 82 error in measurements 107 analysis of errors

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page		Volume Two Investigation Manual Page	
11.B.3f Technological Design	Understand the processes of scientific inquiry and technological design to investigate questions, conduct experiments and solve problems.	Know and apply the concepts, principles and processes of scientific inquiry.	Using available technology, report the relative success of the design based on the test results and criteria.	14	lab report	15	written communication essential to science
				17	making graphs	36	written and oral communication is important to science
				18	making graphs	37	communication is important to science
				26	making graphs	37	making bar graphs
				82	creating pie graph	76	creating bar graphs
				130	communicating	77	communicating
				154	communicating scientific information in written form and explaining and discussing hard to grasp concepts	80	communicating results
				166	explaining phenomena and related ?? are made understandable through discussion	120	communicating orally is essential to science
				170	present results of experiments or projects	130	formal lab report
				235	explaining to others	131	communicating results is essential to science
				275	explaining helps to understand	131	lab report
				402	explaining	155	formal lab report

Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page		Volume Two Investigation Manual Page	
12.A.3a Life Science	Understand the fundamental concepts, principles and interconnections of the life, physical and earth/space sciences.	Know and apply concepts that explain how living things function, adapt and change.	Explain how cells function as “building blocks” of organisms and describe the requirements for cells to live.	28	basic life processes	19	animal life processes
				29	concept of cells	38	concept of cells
				29	life processes	40	differences in plant and animal cells
				30	general animal life processes	41	plant vs. animal cells
				32	life processes	42	plant vs. animal cells
				33	concept of cells	45	life processes of a cell
				34	different kinds and functions of cells	48	life processes of cells—food
				36	general life processes	49	life processes of cells
				37	concept of a cell	53	mitosis and cell cycle
				41	life processes	54	differences in plant and animal cells
				104	general life processes	56	mitosis and cell division
				135	concept of cells		
				136	different function of cells		
				136	basic concept of cells		
				137	difference between plant and animal cells		
				137	concept of cells—discovery of		
				138	cell processes—reproduction		
				138	how cells reproduce		
				139	understand specialized plant and animal cells		
				141	concept of cells		

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
				141	
				specialized cells	
				147	
				different kinds of cells and their functions	
				154	
				differences in plant and animal cells	
				155	
				concept of cells	
				159	
				life processes of cells—active and passive transport	
				161	
				life processes of cells	
				165	
				life processes—respiration	
				166	
				life processes respiration and photosynthesis	
				167	
				life processes of cells	
				169	
				understand functions of specialized animal cells	
				171	
				cell life processes	
				172	
				life functions of cells—diffusion and osmosis	
				174	
				life processes of cells—food	
				175	
				life processes of cells	
				175	
				understand functions of specialized cells	
				176	
				life processes of cells	
				180	
				life processes of cells	

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
				181	
				life processes of cells—respiration	
				183	
				processes of cells—respiration	
				192	
				life processes of cells	
				196	
				describe how multi-celled organisms grow by how cells reproduce	
				196	
				basic cell processes—reproduction	
				198	
				basic life function of cells—reproduction and growth	
				199	
				basic cell functions—reproduction	
				199	
				mitosis	
				200	
				how multi-cellular organisms grow based on cell reproduction	
				201	
				how multi-celled organisms grow because of cell reproduction	
				206	
				specialized animal cells	
				239	
				mitosis	
				277	
				different kinds and functions of cells	
				277	
				different kind of cells—plants and animals	
				311	
				concept of cells	

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
				313	
				different kinds of cells	
				322	
				concept of cells	
				354	
				general animal life processes	
				354	
				multi-celled organisms grow when cells divide	
				355	
				general life processes—eating and digestion	
				359	
				general animal processes	
				360	
				general animal life processes	
				368	
				understand specialized functions of animal cells	
				369	
				general animal life processes	
				370	
				general animal life processes	
				371	
				general animal life processes	
				372	
				general animal life processes	
				373	
				general animal life functions	
				375	
				general animal life processes	
				386	
				life processes of cells	

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation		Volume One Student Text Page	Volume Two Investigation Manual Page	
12.A.3b Life Science	Understand the fundamental concepts, principles and interconnections of the life, physical and earth/space sciences.	Know and apply concepts that explain how living things function, adapt and change.	Compare characteristics of organisms produced from a single parent with those of organisms produced by two parents	33	difference between single and multicellular organisms	13	classification of living things
				44	multi vs. single celled	14	classify living things
				44	classification into kingdoms	15	classify living things
				45	classification of kingdoms	17	classification of organisms
				46	classification of kingdoms	18	classifying organisms
				48	classification of organisms into six kingdoms	26	components of an ecosystem—interactions
				49	classification of living things into kingdoms	38	plant tissues and organs
				51	classify living organisms into kingdoms	48	classification of organisms into six kingdoms
				57	classifying organisms into six kingdoms	52	classifying organisms into six kingdoms
				58	classifying organisms into six kingdoms	54	DNA forms
				59	concept of kingdoms	55	sexual reproduction and haploid and diploid
				70	DNA make up and nucleic acids	56	haploid vs. diploid
				71	DNA make up and nucleic acids	57	sexual reproduction and meiosis
				137	difference between multi and single cellular organism	58	haploid vs. diploid
				139	concept of DNA	59	genes and inherited traits
				61	dominant vs. recessive traits		
				62	genes and inherited traits		
				63	dominance vs. recessive		

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard Area	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page	
				139	differences between multi and single celled organisms	66 DNA structure
				140	concept of DNA	66 genes and inherited traits
				144	DNA	67 DNA
				150	genes and how they interact with immune system	68 DNA structure
				168	DNA	69 DNA
				173	differences between a single-celled organisms and multi-celled organisms	72 inherited traits
				174	difference between multi-celled organisms and single-celled organisms	73 inherited traits
				177	classification of organisms into Protista Kingdom	74 inherited traits
				178	classification into Archaeobacteria and Eubacteria kingdoms	76 inherited traits
				185	concept of DNA	101 sexual vs. asexual reproduction
				188	genes and genetic make-up	
				189	single celled organism	
				196	DNA	
				197	concept of DNA	
				198	asexual reproduction	

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
				199	
				asexual reproduction of cells	
				200	
				asexual reproduction	
				201	
				DNA	
				201	
				asexual reproduction	
				202	
				DNA	
				202	
				sexual reproduction	
				203	
				sexual reproduction—meiosis	
				204	
				DNA and chromosomes	
				204	
				sexual reproduction—meiosis	
				205	
				haploid vs. diploid cells	
				206	
				sexual reproduction	
				207	
				sexual and asexual reproduction	
				207	
				haploid vs. diploid	
				208	
				concept of genes and heredity	
				208	
				sexual reproduction	
				210	
				haploid vs. diploid	
				211	
				asexual vs. sexual reproduction	
				211	
				DNA	
				212	
				sexual vs. asexual reproduction	

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
				212	
				214	
				216	
				218	
				219	
				220	
				221	
				221	
				222	
				222	
				225	
				225	
				227	
				228	
				229	
				230	
				233	

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
				234	traits and genes
				235	genes and inherited traits
				237	DNA and its function
				238	structure of DNA
				239	genes and heredity
				239	DNA replication
				240	concept of genes and how they relate to DNA and heredity
				240	DNA make-up
				241	DNA
				242	DNA replication and errors
				242	sexual reproduction—errors in
				243	genes and their link to heredity
				243	how new traits may become established in a population
				244	DNA structure and function
				244	diploid vs. haploid
				244	sexual reproduction
				246	DNA recombination
				247	DNA
				248	DNA

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
				249	DNA
				250	human heredity
				250	DNA
				251	genes and inherited traits
				252	DNA
				259	all organisms are made of cells
				259	DNA
				262	DNA
				265	DNA
				268	inherited traits
				269	genetic inheritance
				270	catastrophic events and how they relate to species
				271	explain how new traits might get established in a population
				271	genes and inherited traits
				272	genes and inherited traits
				273	genes and inherited traits
				275	genes and inherited traits
				305	classification of living organisms into six kingdoms
				308	classify organisms

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
				308	mammalian reproductive strategies
				309	classification of organisms into six kingdoms
				310	classification of organisms into six kingdoms
				311	genes and traits/dominant and recessive
				311	classification of organisms into six kingdoms
				311	sexual vs. asexual reproduction
				312	haploid vs. diploid
				313	classifying organisms into six kingdoms
				314	sexual and asexual reproduction
				315	sexual and asexual reproduction
				315	classify organisms into six kingdoms
				315	haploid and diploid
				316	classification of organisms
				325	sexual reproduction
				326	sexual reproduction

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
				327	
				sexual reproduction	
				337	
				sexual reproduction	
				338	
				sexual reproduction	
				339	
				sexual reproduction	
				340	
				sexual reproduction	
				343	
				sexual reproduction	
				344	
				types of reproduction	
				353	
				multi-celled organisms made up of cells	
				354	
				haploid and diploid	
				357	
				sexual reproduction vs. asexual reproduction	
				358	
				complex organisms are made of cells	
				359	
				sexual and asexual reproduction	
				360	
				sexual and asexual reproduction	
				361	
				sexual and asexual reproduction	
				363	
				sexual and asexual reproduction	
				368	
				multi-cellular organisms are made up of cells	
				369	
				sexual and asexual reproduction	

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
				371	sexual and asexual reproduction
				372	sexual vs. asexual reproduction
				373	sexual reproduction
				438	genes and inherited traits
				439	genes and inherited traits

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation		Volume One Student Text Page	Volume Two Investigation Manual Page	
12.A.3c Life Science	Understand the fundamental concepts, principles and interconnections of the life, physical and earth/space sciences.	Know and apply concepts that explain how living things function, adapt and change.	Compare and contrast how different forms and structures reflect different functions (e.g., similarities and differences among animals that fly, walk or swim; structures of plant cells and animal cells).	23	gross anatomy	19	cellular respiration
				27	adapation of animals to different environments	19	animal life processes
				30	general animal life processes	22	cellular respiration
				33	difference between single and multicellular organisms	37	animals and adaptation
				34	bones and muscles	38	plant tissues and organs
				35	idea of organ systems and organization cells to organisms	39	cell structure and function
				36	levels of organization	41	structure of a cell
				36	general life processes	42	structure of a cell
				44	multi vs. single celled	42	classify cells by their organelles
				69	general interactions of human systems	43	life processes of a cell—osmosis and diffusion
				72	form and function of living system	49	classification of cells based on organelles
				74	adaptation of humans to changes in environment	50	classify cells based on structures
				104	adaptations of animals to environment	71	adaptations of animals to different environment
				104	general life processes	90	adaptations of animals to environment
				115	adaptations of animals to specific environments	102	gross anatomy
115	adaptation of animals to specific ecosystems	102	idea of organ systems				
				102	muscles		
				103	muscles		
				103	anatomy of the eye		

Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page	
				137	difference between multi and single cellular organism	104 anatomy
				139	understand specialized plant and animal cells	106 gross anatomy
				139	cell structures and functions of structures	106 interaction of systems
				139	differences between multi and single celled organisms	111 gross anatomy
				140	concept of nucleus	121 gross anatomy—eye
				141	specialized cells	
				142	structure and function of cell parts	
				142	concept of nucleus	
				142	mitochondria and chloroplasts	
				143	mitochondria and what they do	
				143	structure and function of cell organelles	
				143	classification of cells based on organelles	
				144	concept of nucleus	
				144	cell structures and what they do	
				145	cell structures and what they do	

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
				145	
				145	
				146	
				147	
				147	
				148	
				148	
				150	
				150	
				153	
				153	
				154	
				156	
				157	
				158	

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
				159	
				160	
				164	
				165	
				167	
				168	
				169	
				171	
				172	
				173	
				174	
				175	
				175	
				176	
				178	

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
				181	
				185	
				186	
				187	
				189	
				189	
				198	
				198	
				200	
				206	
				243	
				246	
				248	
				248	
				249	
				258	
				259	

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
				276	adapatations of animals
				277	adaptations of animals to environments
				278	adaptation of animals to different environments
				308	placenta
				312	form and function
				314	nucleus
				322	nucleus
				323	classification of plants
				323	plant systems
				325	classification of plants
				326	classification of plants
				328	classification of plants
				329	classification of plants
				330	plant systems
				331	plant systems
				332	plant systems
				333	plant systems
				334	plant systems
				336	plant systems
				337	classification of plants
				353	multi-celled organisms made up of cells
				353	structure of cells

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
				354	general animal life processes
				355	general life processes—eating and digestion
				356	plant and animal systems
				357	describe the general function of systems
				357	plant and animal systems
				358	complex organisms are made of cells
				358	plant and animal systems
				359	general animal processes
				360	general animal life processes
				361	plant and animal systems
				362	plant and animal systems
				363	animal systems
				364	form and function of structures
				366	describe functions of major body systems
				366	animal systems
				367	animal systems
				367	bones and muscles

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
				367	
					interactions and structures of major body systems
				368	
					understand specialized functions of animal cells
				368	
					multi-cellular organisms are made up of cells
				369	
					general animal life processes
				370	
					adaptations of animals to specific environments
				370	
					general animal life processes
				371	
					adaptations of animals to certain environments
				371	
					general animal life processes
				372	
					animal adaptations
				372	
					general animal life processes
				373	
					general animal life functions
				374	
					animal systems
				374	
					organs
				375	
					organs
				375	
					general animal life processes
				375	
					plant and animal systems

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
				377	adaptation of animals
				386	cells and tissues
				387	form and function
				387	gross anatomy of the heart
				387	muscles
				388	general function of circulatory system
				388	gross anatomy
				389	general function of circulatory system
				390	general function of circulatory system
				391	gross anatomy of respiratory system—lungs
				391	general function or respiratory system
				392	gross anatomy—heart and lungs
				392	interactions of respiratory and circulatory system
				393	gross anatomy—heart and lungs
				393	interactions and functions of respiratory and circulatory system
				394	gross anatomy
				394	muscles

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
				394	how your systems work together
				395	basic functions of systems and interactions
				396	basic functions and interactions of systems
				397	interactions between systems
				397	gross anatomy
				399	interactions between systems and functions of each
				399	gross anatomy
				400	gross anatomy
				400	general functions of systems
				401	how systems work
				402	gross anatomy
				405	plant and animal systems
				408	bones and muscles
				408	structure and function
				408	interaction between systems
				409	gross anatomy
				409	bones and muscles
				410	bones and muscles

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
				410	how major body systems work
				411	how major systems work
				411	bones and muscles
				412	bones and muscles
				412	how major body systems work
				412	gross anatomy
				412	mitochondria
				413	bones and muscles
				414	bones and muscles
				420	bones and muscles
				424	bones and muscles
				430	functions of systems
				430	gross anatomy
				431	interactions between major body systems
				433	how major body system work
				433	gross anatomy
				434	interactions and workings of systems
				434	gross anatomy
				435	interaction of systems
				435	gross anatomy

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
				438	adaptations
				439	gross anatomy
				448	how systems work
				448	gross anatomy—ear
				449	gross anatomy
				452	gross anatomy

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation		Volume One Student Text Page	Volume Two Investigation Manual Page	
12.B.3a Life Science	Understand the fundamental concepts, principles and interconnections of the life, physical and earth/space sciences.	Know and apply concepts that describe how living things interact with each other and with their environment.	Identify and classify biotic and abiotic factors in an environment that affect population density, habitat and placement of organisms in an energy pyramid.	54	describe types of habitats where new species are being found	35	land biomes or ecosystems
				72	identifying parts of an ecosystem and interactions of plants and animals	37	concept of producer and consumer
				73	main factors that regulate populations in an ecosystem	37	food webs
				74	factors that regulate populations in an ecosystem	86	factors that could lead to extinction
				74	major types of land ecosystems		
				75	major freshwater ecosystems		
				75	describing how oxygen and nitrogen cycle through an ecosystem		
				76	major types of water ecosystems—oceans		
				76	general factors that affect populations in the ocean		
				77	describe general factors regulating population in an ecosystem		
				84	describe major types of land biomes—rainforests		
				84	components of ecosystems		

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
				85	
				86	
				86	
				87	
				88	
				88	
				89	
				89	
				89	
				90	
				90	
				91	
				91	

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
				107	
				109	
				109	
				114	
				115	
				116	
				117	
				118	
				119	
				120	
				123	
				125	
				126	
				127	
				130	

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
				176	
					describe common ecological relationships among species—symbiosis
				182	common ecological relationships—symbiosis
				182	describe how nutrients—nitrogen—cycle through ecosystem
				183	common ecological relationships
				231	describe common ecological relationships
				270	general factors regulating populations in an area
				277	use the concepts of consumers in ecosystem
				278	concept of consumer
				298	causes for extinction
				299	food chain
				299	producers and consumers
				299	how energy flows in an ecosystem
				313	common ecological relationships—symbiosis
				316	symbiosis
				317	factors that regulate populations

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
				317	ecological relationships
				344	ecological relationships
				346	common ecological relationships
				361	explain how matter and energy flow in ecosystems

Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Area	State Goal	Learning Standard	Learning Expectation		Volume One Student Text Page	Volume Two Investigation Manual Page	
12.B.3b Life Science	Understand the fundamental concepts, principles and interconnections of the life, physical and earth/space sciences.	Know and apply concepts that describe how living things interact with each other and with their environment.	Compare and assess features of organisms for their adaptive, competitive and survival potential (e.g., appendages, reproductive rates, camouflage, defensive structures).	27	adapation of animals to different environments	26	how energy moves through an ecosystem
				36	homeostatis—how living things maintain balance	37	animals and adaptation
				36	homeostasis	71	adaptations of animals to different environment
				37	homeostasis	90	adaptations of animals to environment
				42	homeostasis	93	structure of plants
				74	adaptation of humans to changes in environment	93	adaptations of plants to certain habitats
				104	adaptations of animals to environment	95	adaptations of plants
				112	adaptations of plants to different biomes	95	structure of plants
				115	adaptations of animals to specific environments	96	general plant structure
				115	adaptation of animals to specific ecosystems	97	plant structure
				115	adaptations of plants to specific ecosystems	98	general plant structure
				122	adaptations of plants for certain ecosystems	101	sexual vs. asexual reproduction
				124	adaptations of plants to specific ecosystems		
				124	adaptations of plants to certain conditions		
				126	adaptations of plants to an ecosystem		

Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
				127	
				adaptations of plants to certain ecosystems	
				136	
				concept of homeostasis—how cells maintain internal environment	
				189	
				adaptations to extreme environments	
				198	
				asexual reproduction	
				199	
				asexual reproduction of cells	
				200	
				asexual reproduction	
				201	
				asexual reproduction	
				202	
				sexual reproduction	
				203	
				sexual reproduction—meiosis	
				204	
				sexual reproduction—meiosis	
				206	
				sexual reproduction	
				207	
				sexual and asexual reproduction	
				208	
				sexual reproduction	
				211	
				asexual vs. sexual reproduction	
				212	
				sexual vs. asexual reproduction	
				215	
				general plant structure and reproduction	

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
				216	
				general plant structure	
				220	
				general plant structures	
				244	
				sexual reproduction	
				276	
				adapataions of animals	
				277	
				adaptations of animals to environments	
				278	
				adaptation of animals to different environments	
				308	
				mammalian reproductive strategies	
				311	
				sexual vs. asexual reproduction	
				314	
				sexual and asexual reproduction	
				315	
				adaptations to certain environments	
				315	
				sexual and asexual reproduction	
				323	
				structure of plants	
				324	
				adaptations of plants to certain environments	
				325	
				sexual reproduction	
				325	
				general structures of plants	
				326	
				sexual reproduction	
				327	
				structures of plants	

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
				327	
					adaptations of plants for certain environments
				327	sexual reproduction
				328	general plant structures
				329	adaptions of plants to certain environments
				329	general plant structures
				330	general structure of plants
				331	general plant structures—roots
				332	adaptations of plants to certain environments
				332	general structure of plants—stems
				333	general plant structures—leaves
				334	general structure of plants
				336	general structure of plant structures
				337	sexual reproduction
				337	adaptations of plants
				338	general structures of plants—flowers
				338	sexual reproduction
				339	general plant structures—flowers
				339	sexual reproduction

**Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual**

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
				340	sexual reproduction
				340	general plant structures—flowers
				341	general plant structures—fruit and seeds
				342	adaptation of plants to certain environments
				343	sexual reproduction
				343	adaptations of plants
				343	general plant structures
				344	types of reproduction
				346	adaptations of plants
				357	sexual reproduction vs. asexual reproduction
				359	sexual and asexual reproduction
				360	sexual and asexual reproduction
				361	sexual and asexual reproduction
				363	sexual and asexual reproduction
				369	sexual and asexual reproduction
				370	adaptations of animals to specific environments

Correlation to Illinois Learning Standards for Science
CPO Science Life Science (Middle School)
Student Text and Investigation Manual

Standard #: Area	State Goal	Learning Standard	Learning Expectation	Volume One Student Text Page	Volume Two Investigation Manual Page
				371	adaptations of animals to certain environments
				371	sexual and asexual reproduction
				372	sexual vs. asexual reproduction
				372	animal adaptations
				373	sexual reproduction
				377	adaptation of animals
				394	homeostasis
				396	homeostatis—maintaining internal environment
				397	homeostatis
				399	homeostasis
				438	adaptations