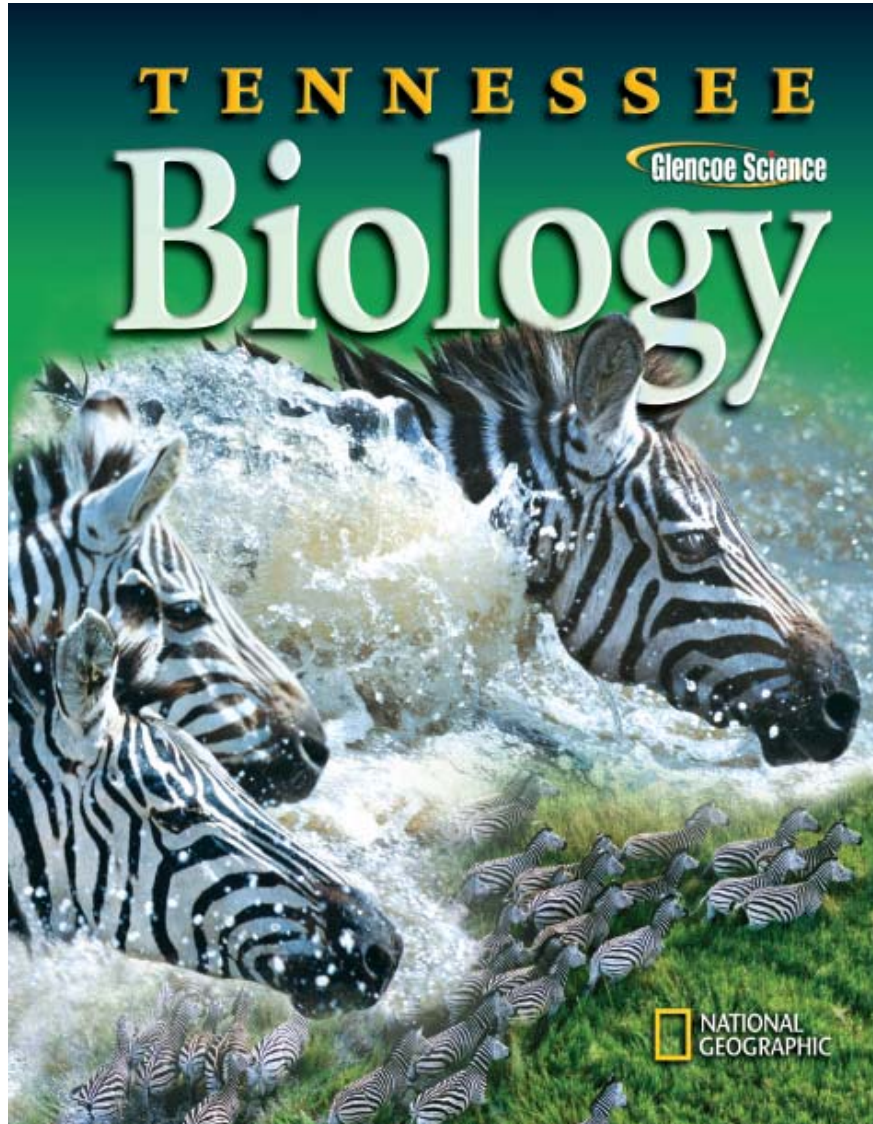


Correlation of
Glencoe Tennessee Biology



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Tennessee Science Standards—Biology I correlated to *Glencoe Tennessee Biology*

Embedded Inquiry	
Conceptual Strand <i>Understandings about scientific inquiry and the ability to conduct inquiry are essential for living in the 21st century.</i>	
Guiding Question <i>What tools, skills, knowledge, and dispositions are needed to conduct scientific inquiry?</i>	
Course Level Expectations	Page Numbers
CLE 3210.Inq.1 Recognize that science is a progressive endeavor that reevaluates and extends what is already accepted.	11–15, 56–57, 112–113, 148–155, 178–179, 182–186, 194, 240–241, 325–332, 336–341, 356–357, 401–407
CLE 3210.Inq.2 Design and conduct scientific investigations to explore new phenomena, verify previous results, test how well a theory predicts, and compare opposing theories.	19, 23, 51, 56–57, 264–265, 287, 356–357, 510–511, 533, 678, 904–905, 930–931, 1039, 1044–1045, 1072–1073
CLE 3210.Inq.3 Use appropriate tools and technology to collect precise and accurate data.	3, 127, 381, 488, 500, 793
CLE 3210.Inq.4 Apply qualitative and quantitative measures to analyze data and draw conclusions that are free of bias.	8, 66, 159, 214–215, 228–233, 245, 274, 303, 381, 396, 417, 475, 519, 580, 593, 634, 646, 717, 743, 748, 761, 791, 793, 806, 866, 935, 965, 980, 996, 1002, 1007, 1019, 1023, 1060, 1064, 1067, 1090, 1093, 1097
CLE 3210.Inq.5 Compare experimental evidence and conclusions with those drawn by others about the same testable question.	59, 287, 631
CLE 3210.Inq.6 Communicate and defend scientific findings.	27, 66, 169, 181, 220, 381, 475, 519, 575, 725, 753, 765, 912, 975, 1007, 1028, 1075, 1093

Checks for Understanding (Formative/Summative Assessment)	Page Numbers
✓ 3210.Inq.1 Trace the historical development of a scientific principle or theory, such as cell theory, evolution, or DNA structure.	11–15, 326–332, 336–341, 356–357, 418–422, 448–449, 461–466, 480–481, 658–659, 788–789, 848–849, 480–481
✓ 3210.Inq.2 Conduct scientific investigations that include testable questions, verifiable hypotheses, and appropriate variables to explore new phenomena or verify the experimental results of others.	107, 567, 975, 1019
✓ 3210.Inq.3 Select appropriate tools and technology to collect precise and accurate quantitative and qualitative data.	381, 488, 541, 500
✓ 3210.Inq.4 Determine if data supports or contradicts a hypothesis or conclusion.	154, 203, 209, 381, 429, 515, 541, 583, 593, 611, 859, 866, 895, 918
✓ 3210.Inq.5 Compare or combine experimental evidence from two or more investigations.	19, 505, 603, 631
✓ 3210.Inq.6 Recognize, analyze, and evaluate alternative explanations for the same set of observations.	8, 19, 51, 533, 899, 950, 965, 996, 1023
✓ 3210.Inq.7 Analyze experimental results and identify possible sources of experimental error.	83, 209, 235, 381, 386–387, 533, 593, 783, 899, 1097
✓ 3210.Inq.8 Formulate and revise scientific explanations and models using logic and evidence.	66, 77, 85–86, 178–179, 223, 264–265, 292–293, 295, 356–357, 365, 414–415, 414–415, 451, 464, 480–481, 528, 605, 634, 650, 658–659, 658–659, 661, 666, 672, 686–687, 693, 702, 777, 823, 907, 938, 945, 961, 991, 1016–1017, 1052, 1072–1073, 1072–1073, 1082, 1097
State Performance Indicators	Page Numbers
SPI 3210 Inq.1 Select a description or scenario that reevaluates and/or extends a scientific finding.	16–21, 56–57, 115, 243, 484–489, 686–687, 717, 773, 819, 843, 871, 899
SPI 3210 Inq.2 Analyze the components of a properly designed scientific investigation.	16–21, 27, 142–143, 356–357, 1039
SPI 3210 Inq.3 Determine appropriate tools to gather precise and accurate data.	3, 16–21, 51, 251, 572–573, 879
SPI 3210 Inq.4 Evaluate the accuracy and precision of data.	16–21, 173, 209, 235, 381, 533, 653, 783, 809, 953, 1011, 1035
SPI 3210 Inq.5 Defend a conclusion based on scientific evidence.	8, 63, 83, 184, 189, 443, 494, 558, 620, 691, 728, 884, 953, 16–21, 510–511
SPI 3210 Inq.6 Determine why a conclusion is free of bias.	16–21, 19, 107, 653, 681, 851, 925
SPI 3210 Inq.7 Compare conclusions that offer different, but acceptable explanations for the same set of experimental data.	331, 483, 681
Embedded Technology and Engineering	
Conceptual Strand <i>Society benefits when engineers apply scientific discoveries to design materials and processes that develop into enabling technologies.</i>	
Guiding Question <i>How do science concepts, engineering skills, and applications of technology improve the quality of life?</i>	
Course Level Expectations	Page Numbers
CLE 3210.T/E.1 Explore the impact of technology on social, political, and economic systems.	4–10, 11–15, 182–186, 214–215, 214–215, 253–257, 311–315, 360–362, 361, 628–629
CLE 3210.T/E.2 Differentiate among elements of the engineering design cycle: design constraints, model building, testing, evaluating, modifying, and retesting.	
CLE 3210.T/E.3 Explain the relationship between the	148–155, 159, 161–165, 214–215, 326–332, 392–400,

properties of a material and the use of the material in the application of a technology.	553–560, 576–581, 587–591, 1016–1017
CLE 3210.T/E.4 Describe the dynamic interplay among science, technology, and engineering within living, earth–space, and physical systems.	11–15, 112–113, 112–113, 116–121, 129–135, 214–215, 356–357, 360–362, 363–371, 372–379, 392–400, 414–415, 598–599, 1016–1017
Checks for Understanding (Formative/Summative Assessment)	Page Numbers
✓ 3210.T/E.1 Select appropriate tools to conduct a scientific inquiry.	23, 51, 351, 753
✓ 3210.T/E.2 Apply the engineering design process to construct a prototype that meets developmentally appropriate specifications.	533
✓ 3210.T/E.3 Explore how the unintended consequences of new technologies can impact human and non–human communities.	4–10, 16–21, 120, 360–362, 977–981
✓ 3210.T/E.4 Present research on current bioengineering technologies that advance health and contribute to improvements in our daily lives.	214–215, 253–257, 255, 414–415, 753, 876–877, 988–989
✓ 3210.T/E.5 Design a series of multi–view drawings that can be used by other students to construct an adaptive design and test its effectiveness.	871
State Performance Indicators	Page Numbers
SPI 3210.T/E.1 Distinguish among tools and procedures best suited to conduct a specified scientific inquiry.	23, 51, 182–186, 992–999
SPI 3210.T/E.2 Evaluate a protocol to determine the degree to which an engineering design process was successfully applied.	1067
SPI 3210.T/E.3 Evaluate the overall benefit to cost ratio of a new technology.	92–99, 253–257, 311–315, 448–449, 977–981, 1005–1009, 1054–1061, 1076–1083
SPI 3210.T/E.4 Use design principles to determine if a new technology will improve the quality of life for an intended audience.	137, 129–135, 253–257, 259, 292–293, 1067
Embedded Mathematics	
Conceptual Strand <i>Science applies mathematics to investigate questions, solve problems, and communicate findings.</i>	
Guiding Question <i>What mathematical skills and understandings are needed to successfully investigate biological topics?</i>	
Course Level Expectations	Page Numbers
CLE 3210.Math.1 Understand the mathematical principles associated with the science of biology.	11–15, 27, 63, 66, 85–86, 92–99, 100–105, 116–121, 142–143, 142–143, 147, 156–160, 222–227, 240–241, 264–265, 269, 314, 468, 544, 646, 732, 830, 950, 970, 1028, 1064, 1072–1073
CLE 3210.Math.2 Utilize appropriate mathematical equations and processes to understand biological concepts.	14, 284, 376, 983
Checks for Understanding (Formative/Summative Assessment)	Page Numbers
✓ 3210.Math.1 Choose and construct appropriate graphical representations for a data set.	66, 156–160, 173, 217, 762–769, 925, 983
✓ 3210.Math.2 Analyze graphs to interpret biological events.	63, 92–99, 98, 100–105, 101, 116–121, 129–135, 148–155, 169, 222–227, 274, 303, 392–400, 420, 880–888, 895, 904–905, 913–923, 918, 930–931, 1076–1083, 1084–1091, 1102–1103

✓ 3210.Math.3 Make decisions about units, scales, and measurement tools that are appropriate for investigations involving measurement.	11–15, 107, 173, 925, 1002
✓ 3210.Math.4 Select and apply an appropriate method to evaluate the reasonableness of results.	245
✓ 3210.Math.5 Apply and interpret rates of change from graphical and numerical data.	137, 235, 443
✓ 3210.Math.6 Apply probabilistic reasoning to solve genetic problems.	277–282, 281, 356–357, 359, 360–362, 386–387
State Performance Indicators	Page Numbers
SPI 3210.Math.1 Interpret a graph that depicts a biological phenomenon.	39, 63, 92–99, 98, 100–105, 101, 116–121, 129–135, 131, 148–155, 217, 222–227, 232, 303, 340, 348, 435, 459, 549, 590, 714, 743, 777, 837, 859, 880–888, 895, 904–905, 913–923, 918, 930–931, 975, 1076–1083, 1084–1091, 1090, 1102–1103
SPI 3210.Math.2 Predict the outcome of a cross between parents of known genotype.	14, 169, 360–362, 762–769
Standard 1–Cells	
Conceptual Strand 1	
<i>All living things are made of cells that perform functions necessary for life.</i>	
Guiding Question 1	
<i>How are cells organized to carry on the processes of life?</i>	
Course Level Expectations	Page Numbers
CLE 3210.1.1 Compare the structure and function of cellular organelles in both prokaryotic and eukaryotic cells.	161–165, 182–186, 191–200, 194, 214–215, 240–241, 243, 333–335, 342–349, 406, 515, 516–524, 538–539, 538–539, 541, 544, 546–552, 553–560, 561–565, 632–638, 648–651, 686–687, 692–697, 947–951, 962–967, 988–989, 988–989, 992–999, 1020–1024, 1031–1037, 1048–1053, 1084–1091
CLE 3210.1.2 Distinguish among the structure and function of the four major organic macromolecules found in living things.	147, 166–171, 178–179, 178–179, 187–190, 214–215, 1025–1030, 1054–1061, 1072–1073, 1084–1091, 1102–1103
CLE 3210.1.3 Describe how enzymes regulate chemical reactions in the body.	156–160, 178–179, 414–415, 1019, 1020–1024, 1039
CLE 3210.1.4 Describe the processes of cell growth and reproduction.	244–247, 245, 248–252, 251, 253–257, 255, 264–265, 264–265, 264–265, 270–276, 274, 292–293, 292–293, 356–357, 386–387, 516–524, 546–552, 553–560, 576–581, 582–586, 814–815
CLE 3210.1.5 Compare different models to explain the movement of materials into and out of cells.	148–155, 187–190, 201–207, 214–215
Checks for Understanding (Formative/Summative Assessment)	Page Numbers
✓ 3210.1.1 Investigate cells using a compound microscope.	181, 184, 223, 244–247, 248–252, 519, 567, 634, 1047, 1093
✓ 3210.1.2 Construct a model of a prokaryotic or eukaryotic cell.	564, 182–186
✓ 3210.1.3 Design a graphic organizer that compares proteins, carbohydrates, lipids, and nucleic acids.	166–171
✓ 3210.1.4 Conduct tests to detect the presence of proteins, carbohydrates, and lipids.	154, 1023
✓ 3210.1.5 Design a model that illustrates enzyme function.	173, 414–415
✓ 3210.1.6 Demonstrate the movement of chromosomes during mitosis in plant and animal cells.	201–207, 203, 264–265, 356–357
✓ 3210.1.7 Design and conduct an experiment to	201–207

investigate the effect of various solute concentrations on water movement in cells.	
✓ 3210.1.8 Analyze experimental data to distinguish between active and passive transport.	201–207
State Performance Indicators	Page Numbers
SPI 3210.1.1 Identify the cellular organelles associated with major cell processes.	161–165, 189, 191–200, 218–221, 222–227, 240–241, 240–241, 244–247, 248–252, 264–265, 270–276, 322–323, 322–323, 386–387, 448–449, 516–524, 558, 572–573, 576–581, 598–599, 628–629, 632–638, 674–679, 947–951, 962–967, 1031–1037, 1047
SPI 3210.1.2 Distinguish between prokaryotic and eukaryotic cells.	182–186, 191–200, 414–415, 516–524, 658–659
SPI 3210.1.3 Distinguish among proteins, carbohydrates, lipids, and nucleic acids.	187–190, 604–609
SPI 3210.1.4 Identify positive tests for carbohydrates, lipids, and proteins.	154, 164, 604–609
SPI 3210.1.5 Identify how enzymes control chemical reactions in the body.	164, 240–241, 1020–1024
SPI 3210.1.6 Determine the relationship between cell growth and cell reproduction.	244–247, 248–252, 264–265, 269, 270–276, 292–293, 322–323, 322–323, 561–565, 648–651, 936–940, 1092–1095
SPI 3210.1.7 Predict the movement of water and other molecules across selectively permeable membranes.	201–207, 214–215, 214–215, 549
SPI 3210.1.8 Compare and contrast active and passive transport.	187–190, 214–215, 240–241
Standard 2–Interdependence	
Conceptual Strand 2	
<i>All life is interdependent and interacts with the environment.</i>	
Guiding Question 2	
<i>How do living things interact with one another and with the non–living elements of their environment?</i>	
Course Level Expectations	Page Numbers
CLE 3210.2.1 Investigate how the dynamic equilibrium of an ecological community is associated with interactions among its organisms.	31, 32–40, 41–44, 56–57, 65, 74, 85–86, 85–86, 91, 92–99, 112–113, 178–179, 264–265, 264–265, 322–323, 538–539, 538–539, 542–545, 546–552, 576–581, 587–591, 598–599, 598–599, 611, 628–629, 668–673, 705–715, 722–723, 726–730, 731–736, 788–789, 1075, 1076–1083, 1082
CLE 3210.2.2 Analyze and interpret population data, graphs, or diagrams.	65, 178–179, 240–241, 292–293
CLE 3210.2.3 Predict how global climate change, human activity, geologic events, and the introduction of non–native species impact an ecosystem.	48, 77, 100–105, 116, 120, 122–127, 129–135, 142–143, 860–869
CLE 3210.2.4 Describe the sequence of events associated with biological succession.	60, 85–86
Checks for Understanding (Formative/Summative Assessment)	Page Numbers
✓ 3210.2.1 Analyze human population distribution graphs to predict the impact on global resources, society, and the economy.	100–105, 112–113
✓ 3210.2.2 Construct and maintain a model of an ecosystem.	42, 59, 83
✓ 3210.2.3 Monitor and evaluate changes in a yeast population.	580
✓ 3210.2.4 Investigate an outdoor habitat to identify the abiotic and biotic factors, plant and animal	42, 45–51, 50, 56–57, 60, 74, 1010

populations, producers, consumers, and decomposers.	
✓ 3210.2.5 Conduct research on how human influences have changed an ecosystem and communicate findings through written or oral presentations.	50, 1010
✓ 3210.2.6 Describe a sequence of events that illustrates biological succession.	59, 85–86
State Performance Indicators	Page Numbers
SPI 3210.2.1 Predict how population changes of organisms at different trophic levels affect an ecosystem.	41–44, 56–57, 112–113, 510–511, 745–751, 792–801
SPI 3210.2.2 Interpret the relationship between environmental factors and fluctuations in population size.	39, 85–86, 92–99, 98, 100–105, 101, 112–113, 120, 142–143, 142–143, 214–215, 538–539, 572–573, 583, 590, 593, 722–723
SPI 3210.2.3 Determine how the carrying capacity of an ecosystem is affected by interactions among organisms.	31, 60, 74, 91, 92–99, 100–105, 112–113, 112–113, 116–121, 122–128, 129–135
SPI 3210.2.4 Predict how various types of human activities affect the environment.	48, 77, 122–128, 129–135, 142–143, 178–179, 658–659, 714, 753, 788–789, 814–815, 828–833, 848–849, 852–860, 860–869, 895, 958–959, 1102–1103
SPI 3210.2.5 Make inferences about how a specific environmental change can affect the amount of biodiversity.	65, 74, 85–86, 85–86, 85–86, 112–113, 115, 116–121, 122–128, 129–135, 131, 137, 142–143, 178–179, 615, 686–687, 1076–1083
SPI 3210.2.6 Predict how a specific environmental change may lead to the extinction of a particular species.	92–99, 112–113, 122–128, 129–135, 142–143, 142–143, 852–860, 860–869
SPI 3210.2.7 Analyze factors responsible for the changes associated with biological succession.	63, 77, 85–86, 112–113

Standard 3—Flow of Matter and Energy	
Conceptual Strand 3 <i>Matter cycles and energy flows through the biosphere.</i>	
Guiding Question 3 <i>What are the scientific explanations for how matter cycles and energy flows through the biosphere?</i>	
Course Level Expectations	Page Numbers
CLE 3210.3.1 Analyze energy flow through an ecosystem.	41–44, 218–221, 401–407, 628–629, 737–744, 848–849
CLE 3210.3.2 Distinguish between aerobic and anaerobic respiration.	240–241, 628–629, 1025–1030
CLE 3210.3.3 Investigate the relationship between the processes of photosynthesis and cellular respiration.	218–221, 222–227, 228–233, 232, 264–265, 292–293, 1000–1004
CLE 3210.3.4 Describe the events which occur during the major biogeochemical cycles.	45–51, 56–57
Check for Understanding (Formative/Summative Assessment)	Page Numbers
✓ 3210.3.1 Track energy flow through an ecosystem.	41–44, 628–629
✓ 3210.3.2 Construct a concept map to differentiate between aerobic and anaerobic respiration.	231–232
✓ 3210.3.3 Conduct experiments to investigate photosynthesis and cellular respiration.	235, 292–293, 558, 1002
✓ 3210.3.4 Investigate the process of fermentation.	228–233, 947–951
✓ 3210.3.5 Construct models of the carbon, oxygen, nitrogen, phosphorous, and water cycles.	45–51, 56–57
State Performance Indicators	Page Numbers
SPI 3210.3.1 Interpret a diagram that illustrates energy flow in an ecosystem.	41–44
SPI 3210.3.2 Distinguish between aerobic and anaerobic respiration.	228–233, 240–241
SPI 3210.3.3 Compare and contrast photosynthesis and cellular respiration in terms of energy transformation.	218–221, 220, 222–227, 228–233, 240–241, 322–323, 356–357, 386–387, 448–449, 1025–1030
SPI 3210.3.4 Predict how changes in a biogeochemical cycle can affect an ecosystem.	56–57
Standard 4—Heredity	
Conceptual Strand 4 <i>Organisms reproduce and transmit hereditary information.</i>	
Guiding Question 4 <i>What are the principal mechanisms by which living things reproduce and transmit hereditary information from parents to offspring?</i>	
Course Level Expectations	Page Numbers
CLE 3210.4.1 Investigate how genetic information is encoded in nucleic acids.	270–276, 283–285, 322–323, 326–332, 331, 333–335, 336–341, 356–357, 386–387, 525–531, 528
CLE 3210.4.2 Describe the relationships among genes, chromosomes, proteins, and hereditary traits.	281, 284, 311–315, 314, 322–323, 325, 336–341, 386–387
CLE 3210.4.3 Compare different modes of inheritance: sex linkage, co-dominance, incomplete dominance, multiple alleles, and polygenic traits.	277–282, 296–301, 302–310, 317, 356–357
CLE 3210.4.4 Recognize how meiosis and sexual reproduction contribute to genetic variation in a population.	283–285, 292–293, 292–293, 292–293, 322–323, 662–667, 668–673, 674–679, 1048–1053, 1054–1061
CLE 3210.4.5 Describe the connection between mutations and human genetic disorders.	300

CLE 3210.4.6 Assess the scientific and ethical ramifications of emerging genetic technologies.	283–285, 363–370, 372–379, 376, 414–415
Checks for Understanding (Formative/Summative Assessment)	Page Numbers
✓ 3210.4.1 Use models of DNA, RNA, and amino acids to explain replication and protein synthesis.	333–335, 334, 340, 342–349, 356–357, 386–387, 386–387, 525–531
✓ 3210.4.2 Complete and interpret genetic problems that illustrate sex linkage, co–dominance, incomplete dominance, multiple alleles, and polygenic inheritance.	277–282, 281, 296–301, 302–3210, 322–323, 386–387, 386–387, 686–687
✓ 3210.4.3 Apply data to complete and interpret a genetic pedigree.	277–282, 302–3210, 356–357
✓ 3210.4.4 Describe how the process of meiosis controls the number of chromosomes in a gamete.	269, 292–293, 662–667, 668–673, 674–679, 686–687, 1052, 1054–1061
✓ 3210.4.5 Associate gene mutation with changes in a DNA molecule.	342–349, 386–387
✓ 3210.4.6 Design an informational brochure to describe a human genetic disorder.	297–298, 317, 363–371, 365, 372–379, 386–387, 448–449, 448–449, 448–449
✓ 3210.4.7 Conduct research to explore the scientific and ethical issues associated with emerging gene technologies.	
State Performance Indicators	Page Numbers
SPI 3210.4.1 Identify the structure and function of DNA.	270–276, 326–332, 333–335
SPI 3210.4.2 Associate the process of DNA replication with its biological significance.	270–276, 292–293, 333–335, 401–407, 546–552, 561–565, 572–573, 582–586, 598–599, 628–629, 648–651, 653, 666, 692–697, 722–723, 722–723, 820–827, 834–841, 866, 1060, 1076–1083, 1084–1091, 1090
SPI 3210.4.3 Recognize the interactions between DNA and RNA during protein synthesis.	336–341, 336–341, 342–349, 510–511, 662–667, 668–673
SPI 3210.4.4 Determine the probability of a particular trait in an offspring based on the genotype of the parents and the particular mode of inheritance.	277–282, 281, 287, 295, 302–3210, 314, 317, 322–323, 322–323
SPI 3210.4.5 Apply pedigree data to interpret various modes of genetic inheritance.	277–282, 296–301, 317, 322–323
SPI 3210.4.6 Describe how meiosis is involved in the production of egg and sperm cells.	1048–1053, 1054–1061, 1102–1103
SPI 3210.4.7 Describe how meiosis and sexual reproduction contribute to genetic variation in a population.	359, 360–362, 988–989
SPI 3210.4.8 Determine the relationship between mutations and human genetic disorders.	296–301, 322–323
SPI 3210.4.9 Evaluate the scientific and ethical issues associated with gene technologies: genetic engineering, cloning, transgenic organism production, stem cell research, and DNA fingerprinting.	311–315, 363–371, 372–379, 386–387, 876–877
Standard 5–Biodiversity and Change	
Conceptual Strand 5 <i>A rich variety and complexity of organisms have developed in response to changes in the environment.</i>	
Guiding Question 5 <i>How does natural selection explain how organisms have changed over time?</i>	
Course Level Expectations	Page Numbers
CLE 3210.5.1 Associate structural, functional, and behavioral adaptations with the ability of organisms to survive under various environmental conditions.	65, 74, 112–113, 401–407, 417, 418–422, 423–, 429, 431–441, 435, 443, 448–449, 464, 480–481, 516–524, 538–539, 561–565, 572–573, 576–581, 587–591, 598–

	599, 610–612, 613–616, 617–621, 628–629, 632–638, 639–647, 648–651, 650, 658–659, 662–667, 668–673, 672, 674–679, 678, 686–687, 692–697, 693, 698–704, 722–723, 726–730, 728, 732, 737–744, 743, 745–751, 753, 753, 753, 753, 761, 762–769, 770–774, 775–781, 777, 788–789, 792–801, 802–807, 809, 814–815, 820–827, 834–841, 843, 848–849, 852–860, 860–869, 871, 876–877, 880–888, 889–897, 899, 904–905, 907, 908–915, 912, 913–923, 918, 925, 930–931, 936–940, 941–946, 947–951, 958–959, 962–967, 965, 968–972, 970, 973–976, 975, 988–989, 996, 1000–1004, 1005–1009, 1016–1017, 1031–1037, 1035, 1044–1045, 1062–1065, 1072–1073, 1102–1103
CLE 3210.5.2 Analyze the relationship between form and function in living things.	240–241, 452–460, 461–466, 475, 605, 631, 632–638, 658–659, 705–715, 731–736, 748, 765, 788–789, 791, 793, 814–815, 823, 830, 848–849, 876–877, 884, 904–905, 930–931, 935, 938, 945, 950, 958–959, 977–981, 980, 983, 988–989, 991, 1007, 1011, 1016–1017, 1044–1045, 1048–1053, 1054–1061, 1062–1065, 1072–1073, 1084–1091, 1102–1103
CLE 3210.5.3 Explain how genetic variation in a population and changing environmental conditions are associated with adaptation and the emergence of new species.	420, 423, 431–441, 461–466, 467–473, 480–481, 572–573, 598–599, 613–616, 617–621, 686–687, 814–815, 828–833, 834–841, 848–849, 852–860, 860–869, 880–888, 889–897, 904–905, 930–931, 958–959, 1102–1103
CLE 3210.5.4 Summarize the supporting evidence for the theory of evolution.	401–407, 431–441, 510–511, 686–687, 834–841, 852–860, 876–877
CLE 3210.5.5 Explain how evolution contributes to the amount of biodiversity.	418–422, 431–441, 467–473, 499–503, 542–545, 604–609, 792–801, 802–807, 820–827, 828–833, 834–841, 889–897
CLE 3210.5.6 Explore the evolutionary basis of modern classification systems.	214–215, 423–, 461–466, 467–473, 490–498, 494, 510–511, 510–511, 538–539, 538–539, 538–539, 542–545, 604–609, 610–612, 613–616, 615, 617–621, 698–704, 705–715, 722–723, 726–730, 737–744, 745–751, 753, 762–769, 775–781, 792–801, 802–807, 820–827, 828–833, 834–841, 848–849, 852–860, 860–869, 880–888, 889–897, 988–989
Checks for Understanding (Formative/Summative Assessment)	Page Numbers
✓ 3210.5.1 Create graphic organizers to demonstrate the relationship between form and function in representative organisms.	391, 848–849, 968–972, 1016–1017
✓ 3210.5.2 Explain how natural selection operates in the development of a new species.	572–573, 889–897, 908–915, 913–923
✓ 3210.5.3 Associate fossil data with biological and geological changes in the environment.	391, 392–400, 396, 414–415, 452–460, 461–466, 467–473, 468, 480–481, 613–616, 722–723, 775–781, 859, 889–897
✓ 3210.5.4 Analyze a variety of models, samples, or diagrams to demonstrate the genetic relatedness of organisms.	56–57, 451, 452–460, 461–466, 467–473, 480–481, 500, 510–511, 538–539, 542–545, 575, 582–586, 628–629, 698–704, 848–849, 889–897, 904–905
✓ 3210.5.5 Use a dichotomous key to identify an unknown organism.	484–489, 623
State Performance Indicators	Page Numbers
SPI 3210.5.1 Compare and contrast the structural, functional, and behavioral adaptations of animals or plants found in different environments.	423, 431–441, 448–449, 461–466, 484–489, 499–503, 510–511, 553–560, 587–591, 604–609, 610–612, 613–616, 628–629, 639–647, 674–679, 681, 686–687, 692–697, 717, 725, 737–744, 745–751, 762–769, 770–774, 775–781, 788–789, 792–801, 802–807, 820–827, 834–

	841, 837, 848–849, 852–860, 860–869, 876–877, 880–888, 889–897, 908–915, 913–923, 958–959, 988–989, 1016–1017, 1102–1103
SPI 3210.5.2 Recognize the relationship between form and function in living things.	423–, 431–441, 452–460, 461–466, 553–560, 572–573, 576–581, 610–612, 639–647, 658–659, 661, 686–687, 692–697, 705–715, 737–744, 745–751, 753, 762–769, 770–774, 775–781, 788–789, 792–801, 802–807, 834–841, 848–849, 851, 852–860, 860–869, 876–877, 880–888, 930–931, 936–940, 941–946, 947–951, 961, 968–972, 973–976, 992–999, 1000–1004, 1005–1009, 1016–1017, 1020–1024, 1031–1037, 1044–1045, 1048–1053, 1072–1073, 1092–1095, 1102–1103
SPI 3210.5.3 Recognize the relationships among environmental change, genetic variation, natural selection, and the emergence of a new species.	418–422, 423, 431–441, 452–460, 461–466, 467–473, 480–481, 613–616, 775–781, 788–789, 814–815, 904–905, 908–915, 913–923
SPI 3210.5.4 Describe the relationship between the amount of biodiversity and the ability of a population to adapt to a changing environment.	178–179, 431–441
SPI 3210.5.5 Apply evidence from the fossil record, comparative anatomy, amino acid sequences, and DNA structure that support modern classification systems.	452–460, 459, 467–473, 483, 484–489, 490–498, 499–503, 510–511, 538–539, 542–545, 553–560, 561–565, 564, 582–586, 598–599, 603, 604–609, 610–612, 613–616, 615, 617–621, 620, 628–629, 691, 698–704, 702, 705–715, 722–723, 726–730, 731–736, 737–744, 745–751, 753, 762–769, 773, 783, 788–789, 792–801, 802–807, 806, 814–815, 819, 828–833, 848–849, 852–860, 860–869, 879, 880–888, 904–905, 930–931, 958–959, 988–989, 1016–1017, 1016–1017, 1072–1073
SPI 3210.5.6 Infer relatedness among different organisms using modern classification systems.	490–498, 499–503, 538–539, 572–573, 582–586, 617–621, 698–704, 705–715, 726–730, 731–736, 814–815, 828–833, 953

Glencoe Tennessee Biology correlated to Tennessee Science Standards—Biology I

Chapter-Section	Title	Pages	Course Level Expectations	Checks for Understanding	State Performance Indicators
Chapter 1 The Study of Life					
1.1	Introduction to Biology	4–10	CLE 3210.Inq.3; CLE 3210.Inq.4; CLE 3210.Inq.5; CLE 3210.T/E.1; CLE 3210.T/E.4;	3210.Inq.3; 3210.Inq.6; 3210.T/E.3	SPI 3210.Inq.3; SPI 3210.Inq.5
1.2	The Nature of Science	11–15	CLE 3210.Inq.1; CLE 3210.T/E.1; CLE 3210.T/E.4; CLE 3210.Math.1; CLE 3210.Math.2	✓ 3210.Inq.1; ✓ 3210.Math.1; ✓ 3210.Math.3	SPI 3210.Inq.1; SPI 3210.Math.2
1.3	Methods of Science	16–23	CLE 3210.Inq.1; CLE 3210.Inq.2	✓ 3210.Inq.2; ✓ 3210.Inq.5; ✓ 3210.Inq.6; ✓ 3210.T/E.1; ✓ 3210.T/E.3	SPI 3210.Inq.1; SPI 3210.Inq.2; SPI 3210.Inq.3; SPI 3210.Inq.4; SPI 3210.Inq.5; SPI 3210.Inq.6; SPI 3210.T/E.1; SPI 3210.T/E.2
Chapter 2 Principles of Ecology					
2.1	Organisms and Their Relationships	32–40	CLE 3210.2.1;	✓ 3210.Math.2	SPI 3210.Math.1; SPI 3210.2.2; SPI 3210.2.3
2.2	Flow of energy in an ecosystem	41–44	CLE 3210.2.1; CLE 3210.3.1	✓ 3210.2.2; ✓ 3210.2.4; ✓ 3210.3.1	SPI 3210.2.1; SPI 3210.3.1
2.3	Cycling of Matter	45–51	CLE 3210.Inq.2; CLE 3210.2.3; CLE 3210.3.4	✓ 3210.Inq.5; ✓ 3210.Inq.6; ✓ 3210.T/E.1; ✓ 3210.2.4; ✓ 3210.2.5; ✓ 3210.3.5;	SPI 3210.Inq.3; SPI 3210.T/E.1; SPI 3210.2.4; SPI 3210.3.4
Chapter 3 Communities; Biomes; and Ecosystems					
3.1	Community Ecology	60–64	CLE 3210.Inq.5; CLE 3210.Math.1; CLE 3210.2.4	✓ 3210.Math.2; ✓ 3210.2.2; ✓ 3210.2.4; ✓ 3210.2.6	SPI 3210.Math.1; SPI 3210.Inq.5; SPI 3210.2.3; SPI 3210.2.7
3.2	Terrestrial biomes	65–73	CLE 3210.Inq.4; CLE 3210.Inq.6; CLE 3210.Math.1; CLE 3210.2.1; CLE 3210.2.2; CLE 3210.5.1	✓ 3210.Inq.8; ✓ 3210.Math.1	SPI 3210.2.3; SPI 3210.2.5
3.3	Aquatic Ecosystems	74–83	CLE 3210.Inq.2; CLE 3210.2.1; CLE 3210.2.2; CLE 3210.2.3; CLE 3210.5.1	✓ 3210.Inq.7; ✓ 3210.Inq.8; ✓ 3210.2.2; ✓ 3210.2.4	SPI 3210.Inq.5; SPI 3210.2.3; SPI 3210.2.4; SPI 3210.2.5; SPI 3210.2.7

Chapter–Section	Title	Pages	Course Level Expectations	Checks for Understanding	State Performance Indicators
Chapter 4 Population Ecology					
4.1	Population Dynamics	92–99	CLE 3210.2.1; CLE 3210.Math.1; CLE 3210.2.1; CLE 3210.2.2	✓ 3210.Math.2	SPI 3210.T/E.3; SPI 3210.Math.1; SPI 3210.2.2; SPI 3210.2.3; SPI 3210.2.6
4.2	Human Population	100–107	CLE 3210.Math.1; CLE 3210.2.1; CLE 3210.2.3	✓ 3210.Inq.2; ✓ 3210.Math.1; ✓ 3210.Math.2; ✓ 3210.Math.3; ✓ 3210.2.1	SPI 3210.Inq.6; SPI 3210.Math.1; SPI 3210.2.2; SPI 3210.2.3
Chapter 5 Biodiversity and Conservation					
5.1	Biodiversity	116–121	CLE 3210.Inq.4; CLE 3210.T/E.4; CLE 3210.Math. 1; CLE 3210.2.3	✓ 3210.T/E.3; ✓ 3210.Math.2	SPI 3210.Inq.1; SPI 3210.Math.1; SPI 3210.2.2; SPI 3210.2.3; SPI 3210.2.5; SPI 3210.2.6
5.2	Threats to Biodiversity	122–128	CLE 3210.Math.2; CLE 3210.Inq.3; CLE 3210.2.3		SPI 3210.2.2; SPI 3210.2.3; SPI 3210.2.4; SPI 3210.2.5; SPI 3210.2.6
5.3	Conserving	129–137	CLE 3210.T/E.4; CLE 3210.2.3	✓ 3210.T/E.2; ✓ 3210.Math.2; ✓ 3210.Math.5	SPI 3210.T/E.4; SPI 3210.Math.1; SPI 3210.2.2; SPI 3210.2.3; SPI 3210.2.4; SPI 3210.2.5; SPI 3210.2.6
Chapter 6 Chemistry in Biology					
6.1	Atoms; Elements; and Compounds	148–155	CLE 3210.Inq.1; CLE 3210.Math.1; CLE 3210.T/E.3; CLE 3210.1.2; CLE 3210.1.5	✓ 3210.Inq.1; ✓ 3210.Inq.4; ✓ 3210.Math.2; ✓ 3210.1.4	SPI 3210.Math.1; SPI 3210.1.4
6.2	Chemical Reactions	156–160	CLE 3210.Inq.4; CLE 3210.T/E.3; CLE 3210.Math.1; CLE 3210.1.3	✓ 3210.Inq.4; ✓ 3210. Math.1	SPI 3210.1.5
6.3	Water and Solutions	161–165	CLE 3210.T/E.3; CLE 3210.1.1	✓ 3210.Math.2	SPI 3210.1.1; SPI 3210.1.4; SPI 3210.1.5; SPI 3210.2.2
6.4	The Building Blocks of Life	166–173	CLE 3210.Inq.2; CLE 310.Inq.6; CLE 3210.Math.2; CLE 3210.1.2;	✓ 3210.Math.1; ✓ 3210.Math.2; ✓ 3210.Math.3; ✓ 3210.1.3; ✓ 3210.1.5	SPI 3210.Inq.4; SPI 3210.Math.2; SPI 3210.1.3

Chapter–Section	Title	Pages	Course Level Expectations	Checks for Understanding	State Performance Indicators
Chapter 7 Cellular Structure and Function					
7.1	Cell Discovery and Theory	182–186	CLE 3210.Inq.4; CLE 3210.Inq.6; CLE 3210.Inq.1; CLE 3210.T/E.1; CLE 3210.1.1	✓ 3210.Inq.1; ✓ 3210.1.1; ✓ 3210.1.2	SPI 3210.Inq.5; SPI 3210.T/E.1; SPI 3210.1.2
7.2	The Plasma Membrane	187–190	CLE 3210.1.2; CLE 3210.1.5		SPI 3210.Inq.1; SPI 3210.Inq.5; SPI 3210.1.1; SPI 3210.1.3; SPI 3210.1.8
7.3	Structures and Organelles	191–200	CLE 3210.Inq.1; CLE 3210.1.1	✓ 3210.1.2;	SPI 3210.1.1; SPI 3210.1.2
7.4	Cellular Transport	201–209	CLE 3210.Inq.2; CLE 3210.1.5	✓ 3210.Inq.4; ✓ 3210.Inq.7; ✓ 3210.1.1; ✓ 3210.1.7; ✓ 3210.1.8	SPI 3210.Inq.4; SPI 3210.1.7; SPI 3210.1.8
Chapter 8 Cellular Energy					
8.1	How Organisms Obtain Energy	218–221	CLE 3210.Inq.6; CLE 3210.1.1; CLE 3210.3.1; CLE 3210.3.3	✓ 3210.Math.1; ✓ 3210.Math.3; ✓ 3210.3.3	SPI 3210.Math.1; SPI 3210.1.1; SPI 3210.3.3
8.2	Photosynthesis	222–227	CLE 3210.Math.1; CLE 3210.1.1; CLE 3210.3.3	✓ 3210.Inq.8; ✓ 3210.Math.2; ✓ 3210.1.1	SPI 3210.Math.1; SPI 3210.1.1; SPI 3210.3.3
8.3	Cellular Respiration	228–235	CLE 3210.Inq.2; CLE 3210.Inq.4; CLE 3210.3.3;	✓ 3210.Math.2; ✓ 3210.Math.5; ✓ 3210.Inq.7; ✓ 3210.3.2; ✓ 3210.3.3; ✓ 3210.3.4	SPI 3210.Inq.4; SPI 3210.Math.1; SPI 3210.3.2; SPI 3210.3.3
Chapter 9 Cellular Reproduction					
9.1	Cellular Growth	244–247	CLE 3210.Math.2; CLE 3210.Inq.4; CLE 3210.1.1; CLE 3210.1.4	✓ 3210.Math.4; ✓ 3210.1.1; ✓ 3210.1.6	SPI 3210.Inq.1; SPI 3210.Inq.3; SPI 3210.1.1; SPI 3210.1.6
9.2	Mitosis and Cytokinesis	248–252	CLE 3210.1.4;	✓ 3210.1.1; ✓ 3210.1.6	SPI 3210.1.1; SPI 3210.1.6
9.3	Cell Cycle Regulation	253–259	CLE 3210.T/E.1; CLE 3210.T/E.3; CLE 3210.1.2; CLE 3210.1.4	✓ 3210.Inq.7; ✓ 3210.T/E.4; ✓ 3210.Math.1; ✓ 3210.Math.4; ✓ 3210.Math.5; ✓ 3210.2.3	SPI 3210.T/E.3; SPI 3210.T/E.4

Chapter-Section	Title	Pages	Course Level Expectations	Checks for Understanding	State Performance Indicators
Chapter 10	Sexual Reproduction and Genetics				
10.1	Meiosis	270–276	CLE 3210.Inq.4; CLE 3210.Math.1; CLE 3210.1.1; CLE 3210.1.4; CLE 3210.4.1; CLE 3210.4.2	✓ 3210.Inq.8; ✓ 3210.Math.2; ✓ 3210.4.4;	SPI 3210.1.1; SPI 3210.1.6; SPI 3210.4.1; SPI 3210.4.2;
10.2	Mendelian Genetics	277–282	CLE 3210.4.2; CLE 3210.4.3;	✓ 3210.Math.6; ✓ 3210.4.2; ✓ 3210.4.3;	SPI 3210.Math.2; SPI 3210.4.4; SPI 3210.4.5
10.3	Gene Linkage and Polyploidy	283–287	CLE 3210.Inq.2; CLE 3210.Inq.5; CLE 3210.Math.2; CLE 3210.4.1; CLE 3210.4.2; CLE 3210.4.4; CLE 3210.4.6	✓ 3210.Inq.8; ✓ 3210.Math.6	SPI 3210.4.4
Chapter 11	Complex Inheritance and Human Heredity				
11.1	Basic Patterns of Human Inheritance	296–301	CLE 3210.4.2; CLE 3210.4.3; CLE 3210.4.5	✓ 3210.Inq.8; ✓ 3210.4.2;	SPI 3210.4.4; SPI 3210.4.5; SPI 3210.4.8
11.2	Complex Patterns of Inheritance	302–310	CLE 3210.Inq.4; CLE 3210.Math.1; CLE 3210.4.3; CLE 3210.4.5	✓ 3210.4.2; ✓ 3210.4.3; ✓ 3210.Math.2	SPI 3210.Math.1; SPI 3210.4.4
11.3	Chromosomes and Human Heredity	311–317	CLE 3210.T/E.1; CLE 3210.Math.1; CLE 3210.4.2; CLE 3210.4.5		SPI 3210.T/E.3; SPI 3210.4.4; SPI 3210.4.5; SPI 3210.4.9
Chapter 12	Molecular Genetics				
12.1	DNA: The Genetic Material	326–332	CLE 3210.Inq.1; CLE 3210.T/E.3; CLE 3210.4.2; CLE 3210.4.1; CLE 3210.4.2	✓ 3210.Inq.1	SPI 3210.Inq.7; SPI 3210.4.1
12.2	Replication of DNA	333–335	CLE 3210.1.1; CLE 3210.4.1; CLE 3210.4.2	✓ 3210.Inq.8; ✓ 3210.4.1;	SPI 3210.4.1; SPI 3210.4.2
12.3	DNA, RNA, and Protein	336–341	CLE 3210.Inq.1; CLE 3210.4.1; CLE 3210.4.2	✓ 3210.Inq.1; ✓ 3210.Math.2; ✓ 3210.4.1	SPI 3210.Math.1; SPI 3210.4.3
12.4	Gene Regulation and Mutation	342–351	CLE 3210.Inq.3; CLE 3210.1.1; CLE 3210.4.2;	✓ 3210.Inq.7; ✓ 3210.T/E.1; ✓ 3210.Math.2; ✓ 3210.4.1; ✓ 3210.4.5	SPI 3210.Inq.3; SPI 3210.Inq.4; SPI 3210.T/E.2; SPI 3210.Math.1; SPI 3210.4.3
Chapter 13	Genetics and Biotechnology				
13.1	Applied Genetics	360–362	CLE 3210.T/E.1; CLE 3210.T/E.4; CLE 3210.4.4	✓ 3210.T/E.3; ✓ 3210.Math.6;	SPI 3210.Math.2; SPI 3210.4.7
13.2	DNA Technology	363–371	CLE 3210.T/E.4; CLE 3210.4.6;	✓ 3210.T/E.3; ✓ 3210.Inq.8; ✓ 3210.4.7	SPI 3210.4.9
13.3	The Human Genome	372–381	CLE 3210.Inq.3; CLE 3210.Inq.4; CLE 3210.Inq.6; CLE 3210.T/E.4; CLE 3210.Math.2; CLE 3210.4.6	✓ 3210.T/E.3; ✓ 3210.Inq.3; ✓ 3210.Inq.4; ✓ 3210.Inq.7; ✓ 3210.4.7	SPI 3210.Inq.4; SPI 3210.4.9

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Chapter 14 The History of Life					
14.1	Fossil Evidence of Change	392–400	CLE 3210.Inq.4; CLE 3210.Inq.6; CLE 3210.T/E.3; CLE 3210.T/E.4; CLE 3210.5.5	✓ 3210.Inq.8; ✓ 3210.Math.2; ✓ 3210.5.1; ✓ 3210.5.3	
14.2	The Origin of Life	401–409	CLE 3210.Inq.1; CLE 3210.Inq.5; CLE 3210.Inq.6; CLE 3210.1.1; CLE 3210.3.1; CLE 3210.5.1; CLE 3210.5.4	✓ 3210.Inq.1; ✓ 3210.Inq.5	SPI 3210.Inq.5; SPI 3210.4.2
Chapter 15 Evolution					
15.1	Darwin’s Theory of Natural Selection	418–422	CLE 3210.Inq.4; CLE 3210.Math.1; CLE 3210.5.1; CLE 3210.5.4; CLE 3210.5.3; CLE 3210.5.5	✓ 3210.Math.2; ✓ 3210.Inq.1	SPI 3210.Math.1; SPI 3210.5.3
15.2	Evidence of Evolution	423–430	CLE 3210.5.1; CLE 3210.5.2; CLE 3210.5.3; CLE 3210.5.6	✓ 3210.Inq.4;	SPI 3210.5.1; SPI 3210.5.2; SPI 3210.5.3
15.3	Shaping Evolutionary Theory	431–442	CLE 3210.5.1; CLE 3210.5.2; CLE 3210.5.3; CLE 3210.5.4; CLE 3210.5.5	✓ 3210.Math.1; ✓ 3210.Math.5;	SPI 3210.Inq.5; SPI 3210.Math.1; SPI 3210.5.1; SPI 3210.5.2; SPI 3210.5.3; SPI 3210.5.4
Chapter 16 Primate Evolution					
16.1	Primates	452–460	CLE 32105.2; CLE 32105.6	✓ 3210.Inq.8; ✓ 3210.Math.2; ✓ 3210.5.3; ✓ 3210.5.4	SPI 3210.Math.1; SPI 3210.5.2; SPI 3210.5.3; SPI 3210.5.5
16.2	Hominoids	461–466	CLE 3210.5.1; CLE 3210.5.2; CLE 3210.5.3; CLE 3210.5.6	✓ 3210.Inq.1; ✓ 3210.Inq.8; ✓ 3210.5.3; ✓ 3210.5.4	SPI 3210.5.1; SPI 3210.5.2; SPI 3210.5.3
16.3	Human Ancestry	467–475	CLE 3210.Math.1; CLE 3210.Inq.4; CLE 3210.Inq.6; CLE 3210.5.2; CLE 3210.5.3; CLE 3210.5.4; CLE 3210.5.5; CLE 3210.5.6	✓ 3210.Inq.3; ✓ 3210.5.3; ✓ 3210.5.4	SPI 3210.5.3; SPI 3210.5.5
Chapter 17 Organizing Life’s Diversity					
17.1	The History of Classification	296–301	CLE 3210.Inq.4; CLE 3210.5.6;	✓ 3210.5.4	SPI 3210.Inq.5; SPI 3210.5.5; SPI 3210.5.6
17.2	Modern Classification	490–498	CLE 3210.Inq.4; CLE 3210.5.6	✓ 3210.5.4	SPI 3210.Inq.5; SPI 3210.5.5; SPI 3210.5.6
17.3	Domains and Kingdoms	499–505	CLE 3210.Inq.3; CLE 3210.5.5; CLE 3210.5.6	✓ 3210.Inq.3; ✓ 3210.Inq.5; ✓ 3210.Inq.6; ✓ 3210.Inq.7; ✓ 3210.5.4	SPI 3210.Inq.7; SPI 3210.5.1; SPI 3210.5.5; SPI 3210.5.6

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Chapter 18 Bacteria and Viruses					
18.1	Bacteria	516–524	CLE 3210.Inq.4; CLE 3210.Inq.6; CLE 3210.1.1; CLE 3210.1.4; CLE 3210.5.1	✓ 3210.Inq.4; ✓ 3210.1.1; ✓ 3210.1.2	SPI 3210.1.1; SPI 3210.1.2
18.2	Viruses and Prions	525–533	CLE 3210.Inq.2; CLE 3210.4.1	✓ 3210.Inq.8; ✓ 3210.Inq.5; ✓ 3210.Inq.6; ✓ 3210.Inq.7; ✓ 3210.4.1	SPI 3210.Inq.4; SPI 3210.4.2
Chapter 19 Protists					
19.1	Introduction to Protists	542–545	CLE 3210.Math.1; CLE 3210.1.1; CLE 3210.2.1; CLE 3210.5.5; CLE 3210.5.6	✓ 3210.Inq.3; ✓ 3210.Inq.4; ✓ 3210.1.1; ✓ 3210.5.4	SPI 3210.5.5
19.2	Protozoans—Animal-like Protists	296–301	CLE 3210.T/E.3; CLE 3210.1.1; CLE 3210.1.4	✓ 3210.3.3	SPI 3210.Inq.5; SPI 3210.1.1; SPI 3210.2.2; SPI 3210.5.1; SPI 3210.5.2; SPI 3210.5.5
19.3	Algae—Plantlike Protists	553–560	CLE 3210.T/E.3; CLE 3210.1.1; CLE 3210.1.4	✓ 3210.3.3	SPI 3210.Inq.5; SPI 3210.1.1; SPI 3210.2.2; SPI 3210.5.1; SPI 3210.5.2; SPI 3210.5.5
19.4	Funguslike Protists	561–567	CLE 3210.Inq.2; CLE 3210.1.1; CLE 3210.5.1;	✓ 3210.Inq.2; ✓ 3210.1.1; ✓ 3210.1.2	SPI 3210.1.1; SPI 3210.1.6; SPI 3210.4.2; SPI 3210.5.5
Chapter 20 Fungi					
20.1	Introduction to Fungi	576–581	CLE 3210.T/E.3; CLE 3210.Inq.4; CLE 3210.Inq.6; CLE 3210.1.1; CLE 3210.2.1; CLE 3210.1.4; CLE 3210.5.1	✓ 3210.Inq.4; ✓ 3210.2.3; ✓ 3210.5.4	SPI 3210.1.1; SPI 3210.5.2
20.2	Diversity of Fungi	582–586	CLE 3210.Inq.2; CLE 3210.Inq.4; CLE 3210.T/E.3; CLE 3210.1.4; CLE 3210.2.1	✓ 3210.Inq.4; ✓ 3210.5.4	SPI 3210.2.2; SPI 3210.4.2; SPI 3210.5.5; SPI 3210.5.6
20.3	Ecology of Fungi	587–593	CLE 3210.2.1; CLE 3210.5.1	✓ 3210.Inq.4; ✓ 3210.Inq.7	SPI 3210.Inq.8; SPI 3210.Math.1; SPI 3210.2.2; SPI 3210.2.7; SPI 3210.5.1

Chapter-Section	Title	Pages	Course Level Expectations	Checks for Understanding	State Performance Indicators
Chapter 21 Introduction to Plants					
21.1	Plant Evolution and Adaptations	604–609	CLE 3210.Inq.4; CLE 3210.5.1; CLE 3210.5.2; CLE 3210.5.5; CLE 3210.5.6	✓ 3210.Inq.4; ✓ 3210.Inq.5; ✓ 3210.Inq.8	SPI 3210.1.3; SPI 3210.1.4; SPI 3210.5.1; SPI 3210.5.5
21.2	Nonvascular Plants	610–612	CLE 3210.Inq.2; CLE 3210.2.1; CLE 3210.5.1; CLE 3210.5.5; CLE 3210.5.6	✓ 3210.Inq.4	SPI 3210.5.1; SPI 3210.5.2; SPI 3210.5.5
21.3	Seedless Vascular Plants	613–616	CLE 3210.5.1; CLE 3210.5.2; CLE 3210.5.3; CLE 3210.5.6	✓ 3210.5.3	SPI 3210.2.5; SPI 3210.5.1; SPI 3210.5.3; SPI 3210.5.5
21.4	Vascular Seed Plants	617–623	CLE 3210.Inq.5; CLE 3210.5.1; CLE 3210.5.3; CLE 3210.5.6;	✓ 3210.Inq.4; ✓ 3210.Inq.5; ✓ 3210.Inq.6; ✓ 3210.5.5;	SPI 3210.Inq.5; SPI 3210.5.2; SPI 3210.5.5; SPI 3210.5.6
Chapter 22 Plant Structure and Function					
22.1	Plant Cells and Tissues	632–638	CLE 3210.Inq.4; CLE 3210.Inq.5; CLE 3210.1.1; CLE 3210.5.1; CLE 3210.5.2	✓ 3210.Inq.5; ✓ 3210.Inq.8; ✓ 3210.1.1; ✓ 3210.5.1	SPI 3210.1.1
22.2	Roots; Stems; and Leaves	639–647	CLE 3210.Math.1; CLE 3210.Inq.4; CLE 3210.5.1; CLE 3210.5.2	✓ 3210.Inq.4	SPI 3210.5.1; SPI 3210.5.2
22.3	Plant Hormones and Responses	648–653	CLE 3210.Inq.2; CLE 3210.Inq.4; CLE 3210.1.1; CLE 3210.5.1	✓ 3210.Inq.8	SPI 3210.Inq.4; SPI 3210.Inq.6; SPI 3210.1.1; SPI 3210.1.6; SPI 3210.4.2
Chapter 23 Reproduction in Plants					
23.1	Introduction to Plant Reproduction	662–667	CLE 3210.5.1; CLE 3210.4.4; CLE 3210.Inq.4; CLE 3210.Inq.6	✓ 3210.Inq.8; 3210.4.4	SPI 3210.4.2; SPI 3210.4.3; SPI 3210.5.1; SPI 3210.5.2
23.2	Flowers	668–673	CLE 3210.2.1; CLE 3210.4.4; CLE 3210.5.1	✓ 3210.4.4; ✓ 3210.5.1; ✓ 3210.Inq.8	SPI 3210.4.3; SPI 3210.5.1
23.3	Flowering Plants	674–681	CLE 3210.Inq.2; CLE 3210.4.4; CLE 3210.5.1;	✓ 3210.4.4; ✓ 3210.5.1	SPI 3210.Inq.6; SPI 3210.Inq.7; SPI 3210.Math.1; SPI 3210.1.1; SPI 3210.4.2; SPI 3210.5.1
Chapter 24 Introduction to Animals					
24.1	Animal Characteristics	692–697	CLE 3210.1.1; CLE 3210.5.1; CLE 3210.5.2; CLE 3210.Inq.4; CLE 3210.Inq.3	✓ 3210.Inq.8	SPI 3210.Inq.5; SPI 3210.4.2; SPI 3210.5.1; SPI 3210.5.2; SPI 3210.5.5
24.2	Animal Body Plans	698–704	CLE 3210.Inq.4; CLE 3210.5.1; CLE 3210.5.5; CLE 3210.5.6	✓ 3210.Inq.8; ✓ 3210.5.4	SPI 3210.5.5; SPI 3210.5.6
24.3	Sponges and Cnidarians	705–717	CLE 3210.Inq.4; CLE 3210.2.1; CLE 3210.5.2; CLE 3210.5.5; CLE 3210.5.6	✓ 3210.Inq.3; ✓ 3210.Math.2	SPI 3210.Inq.1; SPI 3210.Math.1; SPI 3210.2.4; SPI 3210.5.1; SPI 3210.5.2; SPI 3210.5.5; SPI 3210.5.6

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Chapter 25 Worms and Mollusks					
25.1	Flatworms	726–730	CLE 3210.Inq.4; CLE 3210.Inq.6; CLE 3210.2.1; CLE 3210.5.1; CLE 3210.5.2; CLE 3210.5.6		SPI 3210.Inq.5; SPI 3210.5.1; SPI 3210.5.5; SPI 3210.5.6
25.2	Roundworms and Rotifers	731–736	CLE 3210.Math.1; CLE 3210.2.1; CLE 3210.5.1; CLE 3210.5.2	✓ 3210.Math.2	SPI 3210.5.2; SPI 3210.5.5; SPI 3210.5.6
25.3	Mollusks	737–744	CLE 3210.Inq.4; CLE 3210.3.1; CLE 3210.5.1; CLE 3210.5.2; CLE 3210.5.6	✓ 3210.Math.2	SPI 3210.Math.1; SPI 3210.5.1; SPI 3210.5.2; SPI 3210.5.5
25.4	Segmented Worms	745–753	CLE 3210.Inq.3; CLE 3210.Inq.4; CLE 3210.Inq.6; CLE 3210.5.1; CLE 3210.5.2; CLE 3210.5.6	✓ 3210.Inq.2	SPI 3210.2.1; SPI 3210.5.1; SPI 3210.5.2; SPI 3210.5.5
Chapter 26 Arthropods					
26.1	Arthropod Characteristics	762–769	CLE 3210.Inq.3; CLE 3210.Inq.4; CLE 3210.Inq.6; CLE 3210.5.1; CLE 3210.5.2; CLE 3210.5.6	✓ 3210.Math.1	SPI 3210.Math.2 SPI 3210.5.1; SPI 3210.5.2; SPI 3210.5.5
26.2	Arthropod Diversity	770–774	CLE 3210.Inq.3; CLE 3210.5.1; CLE 3210.5.2		SPI 3210.Inq.1; SPI 3210.5.1; SPI 3210.5.2; SPI 3210.5.5
26.3	Insects and Their Relatives	775–781	CLE 3210.5.1; CLE 3210.5.2; CLE 3210.5.6	✓ 3210.Inq.6; ✓ 3210.Inq.7; ✓ 3210.Inq.8; ✓ 3210.Math.2; ✓ 3210.5.3;	SPI 3210.Inq.4; SPI 3210.Math.1; SPI 3210.5.1; SPI 3210.5.2; SPI 3210.5.3; SPI 3210.5.5
Chapter 27 Echinoderms and Invertebrate Chordates					
27.1	Echinoderm Characteristics	296–301	CLE 3210.Inq.4; CLE 3210.5.1; CLE 3210.5.2; CLE 3210.5.5; CLE 3210.5.6	✓ 3210.Inq.3; ✓ 3210.5.4	SPI 3210.Inq.4; SPI 3210.5.1; SPI 3210.5.2; SPI 3210.5.5
27.2	Invertebrate Chordates	802–809	CLE 3210.Inq.4; CLE 3210.5.1; CLE 3210.5.2; CLE 3210.5.5; CLE 3210.5.6	✓ 3210.Inq.3; ✓ 3210.5.4	SPI 3210.Inq.4; SPI 3210.5.1; SPI 3210.5.2; SPI 3210.5.5

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Chapter 28 Fishes and Amphibians					
28.1	Fishes	820–827	CLE 3210.Inq.3; CLE 3210.Inq.4; CLE 3210.5.1; CLE 3210.5.2; CLE 3210.5.5; CLE 3210.5.6	✓ 3210.Inq.8	SPI 3210.Inq.1; SPI 3210.4.2; SPI 3210.5.5; SPI 3210.5.1
28.2	Diversity of Today's Fishes	828–833	CLE 3210.Math.1; CLE 3210.5.2; CLE 3210.5.3; CLE 3210.5.4; CLE 3210.5.5; CLE 3210.5.6	✓ 3210.Math.2	SPI 3210.2.4; SPI 3210.5.5; SPI 3210.5.6
28.3	Amphibians	834–843	CLE 3210.5.1; CLE 3210.5.2; CLE 3210.5.3; CLE 3210.5.4; CLE 3210.5.5; CLE 3210.5.6	✓ 3210.Inq.2; ✓ 3210.Math.2;	SPI 3210.Inq.1; SPI 3210.Math.1; SPI 3210.4.2; SPI 3210.5.1; SPI 3210.5.2
Chapter 29 Reptiles and Birds					
29.1	Reptiles	852–860	CLE 3210.2.3; CLE 3210.5.1; CLE 3210.5.2; CLE 3210.5.3; CLE 3210.5.4; CLE 3210.5.6	✓ 3210.Inq.4; ✓ 3210.Math.1; ✓ 3210.Math.2; ✓ 3210.5.3	SPI 3210.Inq.4; SPI 3210.Inq.6; SPI 3210.2.4; SPI 3210.2.6; SPI 3210.5.1; SPI 3210.5.2; SPI 3210.5.5
29.2	Birds	861–871	CLE 3210.Inq.4; CLE 3210.2.3; CLE 3210.5.1; CLE 3210.5.2; CLE 3210.5.3; CLE 3210.5.6	✓ 3210.Inq.3; ✓ 3210.Inq.4	SPI 3210.Inq.1; SPI 3210.2.4; SPI 3210.2.6; SPI 3210.4.2; SPI 3210.5.1; SPI 3210.5.2; SPI 3210.5.5
Chapter 30 Mammals					
30.1	Mammalian characteristics	880–888	CLE 3210.2.1; CLE 3210.5.1; CLE 3210.5.2; CLE 3210.5.3; CLE 3210.5.6	✓ 3210.Math.2	SPI 3210.Inq.4; SPI 3210.Inq.3; SPI 3210.Inq.5; SPI 3210.Math.1; SPI 3210.5.1; SPI 3210.5.2; SPI 3210.5.5; SPI 3210.5.5
30.2	Diversity of Mammals	889–899	CLE 3210.5.1; CLE 3210.5.2; CLE 3210.5.3; CLE 3210.5.5; CLE 3210.5.6;	✓ 3210.Inq.6; ✓ 3210.Inq.7; ✓ 3210.Inq.4; ✓ 3210.Math.1; ✓ 3210.Math.2; ✓ 3210.5.2; ✓ 3210.5.3; ✓ 3210.5.4	SPI 3210.Inq.1; SPI 3210.2.4; SPI 3210.5.1; SPI 3210.5.5; SPI 3210.5.6
Chapter 31 Animal Behavior					
31.1	Basic Behaviors	908–915	CLE 3210.Inq.4; CLE 3210.Inq.6; CLE 3210.5.1; CLE 3210.5.3	✓ 3210.Inq.8; ✓ 3210.5.2	SPI 3210.Inq.4; SPI 3210.5.1; SPI 3210.5.3
31.2	Ecological Behaviors	916–925	CLE 3210.Inq.1; CLE 3210.5.1; CLE 3210.5.3;	✓ 3210.Inq.4; ✓ 3210.Math.1; ✓ 3210.Math.2; ✓ 3210.Math.3; ✓ 3210.5.2; ✓ 3210.5.3	SPI 3210.Inq.6; SPI 3210.5.1; SPI 3210.5.3

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Chapter 32	Integumentary; Skeletal; and Muscular Systems				
32.1	The Integumentary System	936–940	CLE 3210.Inq.3; CLE 3210.Inq.4; CLE 3210.5.1; CLE 3210.5.2	✓ 3210.Inq.8	SPI 3210.1.6; SPI 3210.5.2; SPI 3210.5.5
32.2	The Skeletal System	941–946	CLE 3210.Inq.3; CLE 3210.5.1; CLE 3210.5.2	✓ 3210.Inq.8	SPI 3210.5.2
32.3	The Muscular System	947–952	CLE 3210.Inq.2; CLE 3210.Inq.4; CLE 3210.Math.1; CLE 3210.1.1; CLE 3210.5.1; CLE 3210.5.2	✓ 3210.Inq.6; ✓ 3210.3.4;	SPI 3210.Inq.4; SPI 3210.Inq.5; SPI 3210.1.1; SPI 3210.5.2; SPI 3210.5.6
Chapter 33	Nervous System				
33.1	Structure of the Nervous System	962–967	CLE 3210.Inq.4; CLE 3210.1.1; CLE 3210.5.1; CLE 3210.5.2	✓ 3210.Inq.2; ✓ 3210.Inq.6; ✓ 3210.Inq.8	SPI 3210.1.1; SPI 3210.5.2
33.2	Organization of the Nervous System	968–972	CLE 3210.Math.1; CLE 3210.5.1; CLE 3210.5.2	✓ 3210.Math.2; ✓ 3210.5.1	SPI 3210.5.2
33.3	The Senses	973–976	CLE 3210.Inq.6; CLE 3210.5.1; CLE 3210.5.2	✓ 3210.Inq.2; ✓ 3210.Math.1	SPI 3210.Math.1; SPI 3210.5.2
33.4	Effects of Drugs	977–983	CLE 3210.5.2; CLE 3210.Inq.2; CLE 3210.Inq.4; CLE 3210.T/E.1; CLE 3210.Math.2; CLE 3210.5.2	✓ 3210.T/E.3; ✓ 3210.Inq.8; ✓ 3210.Math.1	SPI 3210.T/E.3
Chapter 34	Circulatory; Respiratory; and Excretory Systems				
34.1	Circulatory System	992–999	CLE 3210.Inq.4; CLE 3210.1.1; CLE 3210.5.1; CLE 3210.5.2	✓ 3210.Inq.2; ✓ 3210.Inq.6; ✓ 3210.Inq.8	SPI 3210.T/E.1; SPI 3210.5.2
34.2	Respiratory System	1000–1004	CLE 3210.Inq.4; CLE 3210.5.1; CLE 3210.5.2; CLE 3210.3.3;	✓ 3210.Math.1; ✓ 3210.Math.3; ✓ 3210.3.3	SPI 3210.5.2
34.3	Excretory System	1005–1011	CLE 3210.Inq.4; CLE 3210.Inq.6; CLE 3210.Math.1; CLE 3210.5.1; CLE 3210.5.2	✓ 3210.T/E.1	SPI 3210.Inq.4; SPI 3210.T/E.3; SPI 3210.5.2
Chapter 35	Digestive and Endocrine Systems				
35.1	The Digestive System	1020–1024	CLE 3210.Inq.4; CLE 3210.1.1; CLE 3210.1.3; CLE 3210.5.2	✓ 3210.Inq.2; ✓ 3210.Inq.6; ✓ 3210.1.4	SPI 3210.1.5; SPI 3210.5.2
35.2	Nutrition	1025–1030	CLE 3210.Math.1; CLE 3210.Inq.4; CLE 3210.Inq.6; CLE 3210.1.2; CLE 3210.3.2		SPI 3210.1.3; SPI 3210.3.3
35.3	The Endocrine System	1031–1039	CLE 3210.Inq.2; CLE 3210.1.1; CLE 3210.1.3; CLE 3210.5.1; CLE 3210.5.2	✓ 3210.Inq.8	SPI 3210.1.1; SPI 3210.1.5; SPI 3210.5.2; SPI 3210.Inq.2; SPI 3210.Inq.4

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Chapter 36	Human Reproduction and Development				
36.1	Reproductive Systems	1048–1053	CLE 3210.Inq.4; CLE 3210.1.1; CLE 3210.4.4; CLE 3210.5.2	✓ 3210.Inq.8; ✓ 3210.1.1; ✓ 3210.4.4;	SPI 3210.1.1; SPI 3210.4.6; SPI 3210.5.2
36.2	Human Development Before Birth	1054–1061	CLE 3210.Inq.4; CLE 3210.1.2; CLE 3210.1.4; CLE 3210.4.4; CLE 3210.5.2	✓ 3210.4.4	SPI 3210.T/E.3; SPI 3210.4.2; SPI 3210.4.6; SPI 3210.5.2
36.3	Birth Growth and Aging	1062–1067	CLE 3210.Inq.4; CLE 3210.Inq.6; CLE 3210.Inq.4; CLE 3210.Math.1; CLE 3210.5.1; CLE 3210.5.2		SPI 3210.Inq.4; SPI 3210.T/E.2; SPI 3210.T/E.4; SPI 3210.5.2
Chapter 37	Immune System				
37.1	Infectious Diseases	1076–1083	CLE 3210.Inq.4; CLE 3210.Inq.6; CLE 3210.2.1;	✓ 3210.Inq.8; ✓ 3210.Math.2	SPI 3210.T/E.3; SPI 3210.Math.1; SPI 3210.2.2; SPI 3210.2.5; SPI 3210.4.2
37.2	The Immune System	1084–1091	CLE 3210.Inq.4; CLE 3210.1.1; CLE 3210.1.2; CLE 3210.5.2	✓ 3210.Math.2	SPI 3210.Math.1; SPI 3210.4.2; SPI 3210.5.2
37.3	Noninfectious Disorders	1092–1097	CLE 3210.Inq.4; CLE 3210.Inq.6; CLE 3210.Inq.4; CLE 3210.Inq.6; CLE 3210.1.1; CLE 3210.5.2	✓ 3210.Inq.7; ✓ 3210.Inq.8	SPI 3210.1.6; SPI 3210.5.2