



South-Western
Educational Publishing

Correlation of
CORD Biology,
CORD Communications, © 2000
(0538681667)

to

**North Carolina's Competency Goals,
Biology, Grades 9-12**

CORRELATION TO NORTH CAROLINA’S COMPETENCY GOALS—BIOLOGY, GRADES 9-12
SUBMISSION TITLE: *CORD BIOLOGY*, CORD COMMUNICATIONS, © 2000 (0538681667)
PUBLISHER: SOUTH-WESTERN EDUCATIONAL PUBLISHING

OBJECTIVES	PAGE REFERENCES
COMPETENCY GOAL 1: The learner will develop an understanding of the physical, chemical and cellular basis of life.	
1.01 Analyze the matter-energy relationships of living and non-living things including:	
<ul style="list-style-type: none"> • Chemical processes and regulatory mechanisms of cells. 	4, 9, 11-19, 21, 40, 46-64, 83-114, 120-127, 173-176, 241, 317, 350, 354, 552-557, 582, 697-699 Labs 1A&B; 2A&B; 7A&B; 15A&B
<ul style="list-style-type: none"> • Bonding patterns. 	11-14, 552-557, 559-560 Lab 15A & B
<ul style="list-style-type: none"> • Energy use and release in biochemical reactions. 	9, 12-17, 46, 74, 84-104, 239-241, 352-354 Lab 20A & B
1.02 Describe the structure and function of cell organelles.	11-14, 46-74, 239-254, 350-354, 666-675, 805 Lab 20A & B
1.03 Compare and contrast the structure and function of prokaryotic and eukaryotic cells.	53-64, 65-74, 240-245, 247-248 Lab 7A & B
1.04 Assess and explain the importance of water to cells, as well as transport into and out of cells.	16, 17, 25, 26, 46-64, 278-279, 284-285, 667-669, 702-705 Lab 1A &B; 19A&B; 20A&B
1.05 Describe the structure and function of enzymes and explain their importance in biological systems.	15, 16, 46-52, 319 Lab 2A&B
1.06 Analyze the bioenergetic reactions:	
<ul style="list-style-type: none"> • Aerobic respiration. 	9, 92-102, 245, 246, 318-321, 324, 373, 443-450 Lab 12A&B
<ul style="list-style-type: none"> • Anaerobic respiration. 	9, 92-102, 318-321, 324, 373 Lab 12A&B
<ul style="list-style-type: none"> • Photosynthesis. 	11, 55, 56, 92-102, 246, 640, 693-699 Labs 20 A&B; 21 A&B
<ul style="list-style-type: none"> • Chemosynthesis. 	9, 11-13, 20, 21, 27, 28, 55, 56, 92-102, 170-172, 247, 318, 325-330 Lab 9A&B
COMPETENCY GOAL 2: The learner will develop an understanding of the continuity of life and the changes of organisms over time.	
2.01 Analyze the molecular basis of heredity/DNA including:	
<ul style="list-style-type: none"> • Replication. 	4, 5, 22, 28, 120-147, 390-395, 396, 576 Lab 16A&B
<ul style="list-style-type: none"> • Protein synthesis (transcription, translation). 	11-16, 120-127, 160-172, 179-181, 318 Lab 5A&B
2.02 Compare and contrast the characteristics of asexual and sexual reproduction.	8, 129-135, 239-253, 281, 282, 289, 290, 299, 304, 305, 306, 320, 325-330, 350, 371, 373, 375, 574-577, 641, 646, 651, 652, 682, 683, 716-729 Lab 9A&B

CORRELATION TO NORTH CAROLINA’S COMPETENCY GOALS—BIOLOGY, GRADES 9-12
SUBMISSION TITLE: *CORD BIOLOGY, CORD COMMUNICATIONS*, © 2000 (0538681667)
PUBLISHER: SOUTH-WESTERN EDUCATIONAL PUBLISHING

OBJECTIVES	PAGE REFERENCES
2.03 Interpret and use the laws of probability to predict patterns of inheritance.	57, 59, 132-135, 138-147, 190-194 Labs 8 A & B; 6 A & B
2.04 Assess the application of DNA technology to forensics, medicine, and agriculture.	9, 17, 22, 23, 32, 123, 124, 129-135, 148, 149, 158, 163, 182-184, 243, 268-270 Lab 4 A & B; 5 A & B; 7 A & B
2.05 Analyze and explain the role of genetics and environment in health and disease.	4, 6, 22, 23, 32, 33, 123, 124, 126, 127, 148, 149, 177, 182 184, 249, 254-270, 295, 319, 450, 451, 469, 585, 617-619 Lab 4 A&B; 5 A&B; 7 A&B
2.06 Examine the development of the Theory of Biological Evolution including:	
• The origins of life.	3, 7, 189-232 Lab 1A&B; 6A&B
• Patterns.	5, 7, 25, 29-31, 137-147, 284, 285, 293, 321 1 A&B; 6A&B
• Variation.	4, 5, 7, 21, 25, 29-31, 137-147, 190-194, 242 1 A&B; 6A&B 7A&B
• Natural selection.	4-7, 21, 29-31, 195-213, 264, 265 Lab 8A&B
COMPETENCY GOAL 3: The learner will develop an understanding of the unity and diversity of life.	
3.01 Relate the variety of living organisms to their evolutionary relationships.	3, 190-213, 239-259, 318-322 Lab 8A&B; 9A&B
3.02 Classify organisms according to currently accepted systems.	APPENDIX 8-11, 220-228, 238-253, 279-306, 325 Lab 16 A&B; 10 A&B
3.03 Determine the form and function of organisms including:	
• Organ systems of animals.	355-367, 390-417, 428-454, 463-489, 500-530Lab 11A&B; 12 A&B; 13 A&B; 14 A&B
• Functional systems of plants including: transport, reproduction, and regulation.	48-52, 82-110, 240-253, 319, 638-653 Lab 18 A&B; 19 A&B; 20 A&B; 21 A&B
3.04 Compare and contrast the processes of reproduction, growth, development, and regulation of major phyla of organisms.	239-253, 279-306, 319, 350, 368-380, 391-416, 428-454, 463-489, 500-511, 519-530, 540-563, 596 Lab 16A&B
3.05 Determine the internal and external factors that influence the growth and development of organisms.	9, 17, 24, 25, 29-31, 195-213, 241-266, 279-306, 391-416, 429-454, 500-505, 506-511, 519-530 Lab 14 A&B; 15 A&B; 16 A&B; 17 A&B
COMPETENCY GOAL 4: The learner will develop an understanding of ecological relationships among organisms.	
4.01 Identify the interrelationships among organisms, populations, communities, ecosystems, and biomes.	4, 20, 24, 25, 26, 29-31, 54, 83-92, 246-248, 260-266, 278, 279, 284, 291, 292, 324-330, 541 Lab 22 A&B; 23 A&B; 24 A&B
4.02 Analyze the cycling of matter: water, carbon, and nitrogen in systems.	47, 83-92, 278, 279, 286, 288, 318, 319, 320, 321, 322, 335, 373, 430, 433, 434, 639, 640, 643, 644, 693-696 Lab 1A &B; 2A&B; 24 A&B

CORRELATION TO NORTH CAROLINA’S COMPETENCY GOALS—BIOLOGY, GRADES 9-12
SUBMISSION TITLE: *CORD BIOLOGY, CORD COMMUNICATIONS*, © 2000 (0538681667)
PUBLISHER: SOUTH-WESTERN EDUCATIONAL PUBLISHING

OBJECTIVES	PAGE REFERENCES
4.03 Explain the flow of energy through ecosystems.	83-92, 278, 279, 318, 324-330, 773-775, 805 Lab 23 A&B; 24 A&B
4.04 Assess and describe sucessional changes in ecosystems.	767-771, 776-779, 805-812 Lab 23 A&B; 24 A&B
4.05 Assess and explain human activities that influence and modify the environment:	
• Global warming.	765, 766, 767 Lab 23 A&B
• Human population growth.	264, 265, 266, 738-749 Lab 24 A&B
• Pesticide use.	264, 265, 266, 303, 328, 332, 333, 334, 705 Lab 23 A&B
COMPETENCY GOAL 5: Students will develop an understanding of the behavior of organisms, resulting from a combination of heredity and environment.	
5.01 Evaluate the survival of organisms and suitable adaptive responses to environmental pressures.	3, 4, 6, 17, 24, 25, 29, 30, 62, 63, 64, 110, 11, 245-256, 324, 333-337, 349, 751, 752, 753, 779, 780, 781, 782-789 Lab 22A&B; 23 A&B; 24 A&B
5.02 Assess and examine ecosystems, and biomes and other responses.	3, 5, 6, 7, 24, 25, 254-266, 318-321, 337, 753-756, 767-779, 782-789 Labs 22 A&B; 23 A&B; 24A&B
5.03 Assess, describe, and explain types of animal behaviors (taxis, reflexes, instincts, and learned behavior).	29, 104, 105, 245-266, 355-380, 608-627, 779-781 Labs 14 A&B; 16 A&B; 15 A&B
5.04 Analyze the biological clocks and rhythmic behavior of organisms.	254-266, 618, 619, 591-595, 613-615 Lab 16 A&B; 20 A&B
5.05 Evaluate and explain the evolution of behavioral adaptations and survival of populations.	21, 24, 25, 29, 30, 254-266, 375, 541, 543-545, 579-584, 612, 755, 756, 782-789 Lab 22A&B; 23 A&B; 24A&B