



BioComm Correlation to the Connecticut Core Science Curriculum Framework, Grades 9-10

Core Scientific Inquiry, Literacy and Numeracy

Standards and Expected Performances	Location/Page where Standard is found
D INQ.1 Identify questions that can be answered through scientific investigation.	2-6; 13, 15 #7; 30 #5; 50 #3; 55 #3; 78; 115; 124-125; 203; 207; 211-215; 225-227; 232-235; 243-244; 253-255; 257-259; 267-269; 378-380; 386-389; 392-396; 636-639.
D INQ.2 Read, interpret and examine the credibility and validity of scientific claims in different sources of information.	2-6; 13, 15; 30; 50; 55; 78; 115; 124-125; 203; 207; 211-215; 225-227; 232-235; 243-244; 253-255; 257-259; 267-269; 378-380; 386-389; 392-396; 636-639.
D INQ.3 Formulate a testable hypothesis and demonstrate logical connections between the scientific concepts guiding the hypothesis and the design of the experiment.	31; 49; 50 #4; 51; 54-55; 80; 115-116; 124-125; 203-205; 211-215; 225-227; 232-235; 243-244; 253-255; 257-269; 378-380; 386-398; 392-396.
D INQ.4 Design and conduct appropriate types of scientific investigations to answer different questions.	23-25; 27; 29-30; 47-48; 51; 54-55; 78-80; 115-116; 124-125; 203-205; 211-215; 225-227; 232-235; 243-244; 253-255; 257-269; 378-380; 386-398; 392-396;
D INQ.5 Identify independent and dependent variables, including those that are kept constant and those used as controls.	27; 49-55; 82-90; 119-120; 162-171; 187-188; 202-211; 232-250; 253-255; 260-262; 376-400.
D INQ.6 Use appropriate tools and techniques to make observations and gather data.	6; 24; 49-54; 79; 115-116; 124-125; 203-205; 211-215; 225-227; 232-235; 253-269; 376-380; 386-389; 392-396; 538

D INQ.7 Assess the reliability of the data that was generated in the investigation.	31; 49; 50 #4; 51; 54-55; 80; 115-116; 124-125; 203-205; 211-215; 225-227; 232-235; 243-244; 253-255; 257-269; 378-380; 386-398; 392-396;
D INQ.8 Use mathematical operations to analyze and interpret data, and present relationships between variables in appropriate forms.	31; 49; 50 #4; 51; 54-55; 80; 115-116; 124-125; 203-205; 211-215; 225-227; 232-235; 243-244; 253-255; 257-269; 378-380; 386-398; 392-396; 544-546.
D INQ.9 Articulate conclusions and explanations based on research data, and assess results based on the design of the investigation.	31; 49; 50-51; 54-55; 80; 115-116; 124-125; 130; 132-134; 203-205; 211-215; 225-227; 232-235; 243-244; 252-255; 257-269; 355-359; 378-380; 386-398; 392-396; 510; 522-525.
D INQ.10 Communicate about science in different formats, using relevant science vocabulary, supporting evidence and clear logic.	62-67; 130; 132-134; 141; 152; 272-276; 342; 358-359; 403-404; 426-427; 470; 482-485; 510; 522-525.

Core Themes, Content Standards and Expected Performances

Strand IV: Cell Chemistry and Biotechnology

Standards and Expected Performances	Location/Page where Standard is found
10.1 - Fundamental life processes depend on the physical structure and the chemical activities of the cell.	
D 27. Describe significant similarities and differences in the basic structure of plant and animal cells.	120-121; 206-211; 214-216; 441;
D 28. Describe the general role of DNA and RNA in protein synthesis.	285-291; 299-303; 307; 310-316; 318-321; 329-338; 344-349; 354.
D 29. Describe the general role of enzymes in metabolic cell processes.	262-267; 349-351.
D 30. Explain the role of the cell membrane in supporting cell functions.	208-216; 295-296.

10.2 - Microorganisms have an essential role in life processes and cycles on Earth.	
D 31. Describe the similarities and differences between bacteria and viruses.	208-211; 468.
D 32. Describe how bacterial and viral infectious diseases are transmitted, and explain the roles of sanitation, vaccination and antibiotic medications in the prevention and treatment of infectious diseases.	243-250; 253-254.
D 33. Explain how bacteria and yeasts are used to produce foods for human consumption	91-93; 350-351.
10.3 - Similarities in the chemical and structural properties of DNA in all living organisms allow the transfer of genes from one organism to another.	
D 34. Describe, in general terms, how the genetic information of organisms can be altered to make them produce new materials.	344-346; 349-352; 354.
D 35. Explain the risks and benefits of altering the genetic composition and cell products of existing organisms.	350-353; 676-679.

Strand V: Genetics, Evolution and Biodiversity

Standards and Expected Performances	Location/Page where Standard is found
10.4. - In sexually reproducing organisms, each offspring contains a mix of characteristics inherited from both parents.	
D 36. Explain how meiosis contributes to the genetic variability of organisms.	299-305; 392-394.
D 37. Use the Punnet Square technique to predict the distribution of traits in mono- and di-hybrid crossings.	315-321.
D 38. Deduce the probable mode of inheritance of traits (e.g., recessive/dominant, sex-linked) from pedigree diagrams showing phenotypes.	316-317.
D 39. Describe the difference between genetic disorders and infectious diseases.	243-250; 286-289; 318; 321-326; 338-340; 352-354.
10.5 - Evolution and biodiversity are the result of genetic changes that occur over time in constantly changing environments.	

D 40. Explain how the processes of genetic mutation and natural selection are related to the evolution of species.	163-165; 344-346; 453-450.
D 41. Explain how the current theory of evolution provides a scientific explanation for fossil records of ancient life forms.	456-464; 466-467.
D 42. Describe how structural and behavioral adaptations increase the chances for organisms to survive in their environments.	120-121; 129-130; 680-684; 694-697.
10.6 - Living organisms have the capability of producing populations of unlimited size, but the environment can support only a limited number of individuals from each species.	
D 43. Describe the factors that affect the carrying capacity of the environment.	156; 162-169; 182-185; 188.
D 44. Explain how change in population density is affected by emigration, immigration, birth rate and death rate, and relate these factors to the exponential growth of human populations.	140-164; 185-188.
D 45. Explain how technological advances have affected the size and growth rate of human populations throughout history.	562-575; 621-630; 672-675; 737-739; 749-752.