

Standards Correlations

Biotechnology Foundations in Agricultural and Environmental Science (8085)

Task	SOL Correlations	Agriculture, Food and Natural Resources Content Standards
Demonstrating Personal Qualities and Abilities		
Demonstrate creativity and innovation.	English: 6.1, 6.3, 6.4, 6.6, 6.7, 6.9, 7.1, 7.3, 7.4, 7.6, 7.7, 7.9, 8.1, 8.3, 8.4, 8.6, 8.7, 8.9, 9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.1, 11.5, 11.6, 11.8, 12.1, 12.5, 12.6, 12.8 History and Social Science: CE.1, CE.4, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WG.4, WHI.1, WHII.1 Mathematics: 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.10, 6.11, 6.12, 7.2, 7.3, 7.8, 7.9, 8.2, 8.4, 8.6, 8.7, 8.11, 8.12, 8.17, 8.18, A.9, AFDA.3, AFDA.4, AFDA.5, AFDA.6, AFDA.7, AFDA.8, AII.9, COM.1, COM.3, COM.4, COM.5, COM.8, DM.7, DM.1*, DM.10, DM.2*, DM.3*, PS.3*, PS.4*, PS.7*, PS.9*, PS.10* Science: 6.1, BIO.1, CH.1, ES.1, LS.1, PS.1	
Demonstrate critical thinking and problem solving.	English: 6.1, 6.3, 6.4, 6.5, 6.6, 6.7, 6.9, 7.1, 7.3, 7.4, 7.5, 7.6, 7.7, 7.9, 8.1, 8.3, 8.4, 8.5, 8.6, 8.7, 8.9, 9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.1, 11.5, 11.6, 11.8, 12.1, 12.5, 12.6, 12.8	

Task	SOL Correlations	Agriculture, Food and Natural Resources Content Standards
	<p>History and Social Science: CE.1, CE.4, CE.11, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WG.4, WHI.1, WHII.1</p> <p>Mathematics: 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.10, 6.11, 7.2, 7.3, 7.8, 7.12, 7.13, 8.2, 8.4, 8.8, 8.9, 8.10, 8.11, A.8, A.9, G.1, G.13, G.14, AFDA.3, AFDA.5, AFDA.8, AII.9, AII.10, AII.11, COM.1, COM.3, COM.4, COM.5, COM.8, DM.4, DM.7, DM.1*, DM.2*, DM.3*, DM.9*, PS.9*, PS.10*</p> <p>Science: 6.1, BIO.1, CH.1, ES.1, LS.1, PS.1</p>	
Demonstrate initiative and self-direction.	<p>English: 6.1, 6.4, 6.6, 6.7, 6.9, 7.1, 7.4, 7.6, 7.7, 7.9, 8.1, 8.4, 8.6, 8.7, 8.9, 9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.1, 11.5, 11.6, 11.8, 12.1, 12.5, 12.6, 12.8</p> <p>History and Social Science: CE.1, CE.4, CE.11, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1</p>	
Demonstrate integrity.	<p>English: 6.1, 7.1, 8.1, 9.1, 9.5, 10.1, 10.5, 11.1, 11.5, 12.1, 12.5</p> <p>History and Social Science: CE.1, CE.3, CE.4, GOVT.1, GOVT.16, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1</p>	
Demonstrate work ethic.	<p>English: 6.1, 7.1, 8.1, 9.1, 10.1, 11.1, 12.1</p> <p>History and Social Science: CE.1, CE.4, CE.14, GOVT.1, GOVT.16, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1</p> <p>Science: CH.1</p>	
Demonstrating Interpersonal Skills		

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Demonstrate conflict-resolution skills.	English: 6.1, 6.2, 6.4, 6.6, 6.7, 6.9, 7.1, 7.2, 7.4, 7.6, 7.7, 7.9, 8.1, 8.2, 8.4, 8.6, 8.7, 8.9, 9.1, 10.1, 11.1, 12.1 History and Social Science: CE.1, CE.4, GOVT.1, USI.1, VUS.1	
Demonstrate listening and speaking skills.	English: 6.1, 6.2, 6.4, 6.6, 7.1, 7.2, 7.4, 7.6, 8.1, 8.2, 8.4, 8.6, 9.1, 10.1, 11.1, 12.1 History and Social Science: CE.1, CE.4, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1	
Demonstrate respect for diversity.	English: 6.1, 7.1, 8.1, 9.1, 10.1, 11.1, 12.1 History and Social Science: CE.1, CE.3, CE.4, GOVT.1, GOVT.16, USI.1, USII.1, USII.9, VUS.1, VUS.13, WG.1, WHI.1, WHII.1	
Demonstrate customer service skills.	English: 6.1, 6.4, 6.7, 7.1, 7.4, 7.7, 8.1, 8.4, 8.7, 9.1, 9.5, 9.6, 10.1, 10.5, 10.6, 11.1, 11.5, 11.6, 12.1, 12.5, 12.6 History and Social Science: CE.1, CE.4, GOVT.1, GOVT.16, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1	
Collaborate with team members	English: 6.1, 7.1, 8.1, 9.1, 10.1, 11.1, 12.1 History and Social Science: CE.1, CE.3, CE.4, GOVT.1, GOVT.16, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1	
Demonstrating Professional Competencies		
Demonstrate big-picture thinking.	English: 6.1, 6.4, 7.1, 7.4, 8.1, 8.4, 9.1, 9.5, 10.1, 10.5, 11.1, 11.5, 12.1, 12.5	

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	History and Social Science: CE.1, CE.4, CE.12, GOVT.1, GOVT.15, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1	
Demonstrate career- and life-management skills.	English: 6.1, 6.7, 7.1, 7.7, 8.1, 8.7, 9.1, 9.6, 10.1, 10.6, 11.1, 11.6, 12.1, 12.6 History and Social Science: CE.1, CE.4, CE.12, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: 8.4	
Demonstrate continuous learning and adaptability.	English: 6.1, 6.4, 6.7, 6.9, 7.1, 7.4, 7.7, 7.9, 8.1, 8.4, 8.7, 8.9, 9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.1, 11.5, 11.6, 11.8, 12.1, 12.5, 12.6, 12.8 History and Social Science: CE.1, CE.3, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Science: BIO.1, CH.1, LS.1, PH.1, PH.4, PS.1	
Manage time and resources.	English: 6.1, 6.2, 6.4, 6.7, 6.9, 7.1, 7.2, 7.4, 7.7, 7.9, 8.1, 8.2, 8.4, 8.7, 8.9, 9.1, 9.5, 9.6, 9.8, 10.1, 10.5, 10.6, 10.8, 11.2, 11.5, 11.6, 11.8, 12.2, 12.5, 12.6, 12.8 History and Social Science: CE.1, CE.4, CE.11, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: 6.10, 6.11, 6.12, 7.2, 7.3, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 8.4, 8.11, 8.12, 8.13, 8.14, 8.17, 8.18, A.4, A.5, A.8, A.9, AFDA.3, AFDA.4, AFDA.5, AFDA.6, AFDA.7, AFDA.8, COM.1, COM.3, COM.5, COM.8	

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Demonstrate information-literacy skills.	<p>English: 6.1, 6.2, 6.4, 6.6, 6.7, 6.9, 7.1, 7.2, 7.3, 7.4, 7.6, 7.7, 7.9, 8.1, 8.2, 8.3, 8.4, 8.6, 8.7, 8.9, 9.2, 9.5, 9.6, 9.8, 10.2, 10.5, 10.6, 10.8, 11.2, 11.5, 11.6, 11.8, 12.2, 12.5, 12.6, 12.8</p> <p>History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1</p> <p>Mathematics: 6.10, 6.11, 7.8, 7.9, 8.11, 8.12, A.8, A.9, AFDA.3, AFDA.4, AFDA.6, AFDA.7, AFDA.8, DM.8, PS.1*, PS.2*, PS.3*, PS.4*, PS.7*, PS.8*, PS.9*, PS.10*</p> <p>Science: 6.1, BIO.1, CH.1, ES.1, LS.1, PH.1, PS.1</p>	
Demonstrate an understanding of information security.	<p>English: 6.1, 6.2, 6.3, 6.4, 6.6, 6.7, 6.8, 6.9, 7.1, 7.2, 7.3, 7.4, 7.6, 7.7, 7.8, 7.9, 8.1, 8.2, 8.3, 8.4, 8.6, 8.7, 8.8, 8.9, 9.1, 9.2, 9.5, 9.6, 9.8, 10.1, 10.2, 10.5, 10.6, 10.8, 11.1, 11.2, 11.5, 11.6, 11.8, 12.1, 12.2, 12.5, 12.6, 12.8</p> <p>History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1</p> <p>Mathematics: COM.10</p>	
Maintain working knowledge of current information-technology (IT) systems.	<p>English: 6.1, 6.3, 6.4, 6.6, 6.9, 7.1, 7.3, 7.4, 7.6, 7.9, 8.1, 8.3, 8.4, 8.6, 8.9</p> <p>History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1</p> <p>Mathematics: 7.8, COM.1, COM.2, COM.7, COM.9, COM.10, COM.11, COM.16, COM.18, PS.17</p>	

Task	SOL Correlations	Agriculture, Food and Natural Resources Content Standards
	Science: BIO.1, CH.1, ES.1, PH.1	
Demonstrate proficiency with technologies, tools, and machines common to a specific occupation.	History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: 6.10, 6.11, 7.9, 8.4, A.7, A.8, A.9, AFDA.1, AFDA.3, AFDA.5, AII.4, AII.7, AII.9, COM.1, COM.7, COM.10, COM.11, COM.12, COM.16 Science: CH.1, ES.1, LS.1, PH.1, PS.1	
Apply mathematical skills to job-specific tasks.	English: 6.4, 6.6, 6.7, 7.4, 7.6, 7.7, 8.4, 8.6, 8.7, 9.5, 9.6, 10.5, 10.6, 11.5, 11.6, 12.5, 12.6 History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Mathematics: 6.1, 6.2, 6.5, 6.6, 6.12, 6.13, 6.14, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.8, 7.9, 7.11, 7.12, 7.13, 8.4, 8.5, 8.6, 8.8, 8.9, 8.10, 8.11, 8.12, 8.13, 8.14, 8.15, 8.16, 8.17, 8.18, A.1, A.3, A.4, A.5, A.7, A.8, A.9, AFDA.1, AFDA.3, AFDA.5, AFDA.8, AII.3, AII.7, AII.9, AII.10, COM.1, COM.7 Science: 6.1, BIO.1, CH.1, ES.1, LS.1, PH.1, PS.1	
Demonstrate professionalism.	English: 6.1, 7.1, 8.1, 9.1, 10.1, 11.1, 12.1 History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1	

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Demonstrate reading and writing skills.	English: 6.1, 6.6, 6.7, 7.1, 7.6, 7.7, 8.1, 8.6, 8.7, 9.1, 9.5, 9.6, 9.7, 10.1, 10.5, 10.6, 10.7, 11.1, 11.5, 11.6, 11.7, 12.1, 12.5, 12.6, 12.7 History and Social Science: CE.1, CE.4, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Science: 6.1, PH.1, PS.1	
Demonstrate workplace safety.	English: 6.4, 7.4, 8.4, 9.5, 10.5, 11.5, 12.5 History and Social Science: CE.1, CE.4, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 Science: CH.1	
Examining All Aspects of an Industry		
Examine aspects of planning within an industry/organization.	History and Social Science: GOVT.16	
Examine aspects of management within an industry/organization.		
Examine aspects of financial responsibility within an industry/organization.		
Examine technical and production skills required of workers within an industry/organization.		
Examine principles of technology that underlie an industry/organization.		
Examine labor issues related to an industry/organization.	History and Social Science: GOVT.16	
Examine community issues related to an	History and Social Science: GOVT.16	

Task	SOL Correlations	Agriculture, Food and Natural Resources Content Standards
industry/organization.		
Examine health, safety, and environmental issues related to an industry/organization.	History and Social Science: GOVT.16	
Addressing Elements of Student Life		
Identify the purposes and goals of the student organization.		
Explain the benefits and responsibilities of membership in the student organization as a student and in professional/civic organizations as an adult.		
Demonstrate leadership skills through participation in student organization activities, such as meetings, programs, and projects.		
Identify Internet safety issues and procedures for complying with acceptable use standards.		
Exploring Work-Based Learning		
Identify the types of work-based learning (WBL) opportunities.		
Reflect on lessons learned during the WBL experience.		
Explore career opportunities related to the WBL experience.		
Participate in a WBL experience, when appropriate.		

Task	SOL Correlations	Agriculture, Food and Natural Resources Content Standards
Exploring Leadership Opportunities through FFA		
Identify the role of supervised agricultural experiences (SAEs) in agricultural education.	English: 9.3, 9.5, 10.3, 10.5	
Participate in an SAE.	English: 9.5, 9.8, 10.5, 10.8	
Identify the benefits and responsibilities of FFA membership.	English: 9.5, 9.6, 9.7, 9.8, 10.5, 10.6, 10.7, 10.8	
Describe leadership characteristics and opportunities as they relate to agriculture and FFA.	English: 9.5, 10.5 History and Social Science: VUS.8, VUS.9, VUS.10, VUS.11, WHII.8, WHII.10, WHII.11	
Apply for an FFA degree and/or an agricultural proficiency award.	English: 9.5, 10.5	
Exploring Foundations in Biotechnology		
Define <i>agricultural biotechnology</i> .	English: 10.3, 11.3, 12.3	
Identify historical, current, and emerging developments and applications of biotechnology in agriculture.	English: 10.5, 11.5, 12.5 History and Social Science: WHI.2, WHI.3, WHI.4, WHI.5, WHI.6	BS.01.01 BS.03.04
Describe how biotechnology is used in other disciplines.	English: 10.5, 11.5, 12.5 History and Social Science: GOVT.9, VUS.14, WG.2	BS.01.01 BS.03.04 BS.03.05
Identify careers related to biotechnology.	English: 10.5, 11.5, 12.5	
Preparing for Biotechnology Experiences		
Demonstrate safe laboratory procedures.	History and Social Science: GOVT.1, GOVT.11, GOVT.15, GOVT.16	BS.02.01 BS.02.02 BS.02.03

Task	SOL Correlations	Agriculture, Food and Natural Resources Content Standards
	Science: BIO.1, CH.1	BS.02.04
Employ the scientific method and the technological/engineering method to solve biotechnology problems.	English: 10.1, 10.3, 10.5, 10.6, 10.7, 10.8, 11.1, 11.3, 11.5, 11.6, 11.7, 11.8, 12.1, 12.3, 12.5, 12.6, 12.7, 12.8 Mathematics: A.9, AFDA.1, AFDA.3, AFDA.4, AFDA.8, AII.7, AII.9, PS.5, PS.1*, PS.18, PS.2*, PS.3*, PS.7*, PS.8*, PS.10* Science: BIO.1, CH.1	BS.01.03 BS.02.01
Demonstrate standard operating procedures (SOPs) related to the agricultural biotechnology lab.	English: 10.5, 11.5, 12.5	BS.02.01 BS.02.02 BS.02.03
Analyze data generated from lab activities.	English: 10.5, 10.6, 10.7, 10.8, 11.5, 11.6, 11.7, 11.8, 12.5, 12.6, 12.7, 12.8 Mathematics: A.4, A.9, AFDA.1, AFDA.3, AFDA.4, AFDA.8, AII.7, AII.8, AII.9, COM.1, PS.5, PS.1*, PS.2*, PS.20, PS.3*, PS.4*, PS.7*, PS.8*, PS.9*, PS.10* Science: BIO.1, CH.1	BS.02.01 BS.02.02 BS.02.03
Introducing Macromolecules		
Explain the roles of sciences applicable to biotechnology.	English: 10.5, 11.5, 12.5 Science: BIO.2, CH.6	
Explain the structure and cellular function of organic macromolecules.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5 Science: BIO.2	

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Analyze how organic macromolecules are detected and manipulated using biotechnological tools.	English: 10.5, 11.5, 12.5 Science: CH.6	
Explain nucleic acids.	English: 10.5, 11.5, 12.5 Science: BIO.5	BS.02.05
Explain proteins.	English: 10.5, 11.5, 12.5 Science: BIO.5	BS.02.05
Describe the characteristics and functions of enzymes and the biotechnological processes used to produce enzymes.	English: 10.5, 11.5, 12.5 Science: BIO.2, CH.6	BS.02.05 BS.03.02
Model a biochemical pathway that includes enzymes.	English: 10.5, 11.5, 12.5 Science: BIO.2	BS.03.02
Explain antibodies.	English: 10.5, 11.5, 12.5	BS.02.05
Use antibodies to detect and quantify antigens.		BS.02.05
Explain the function of carbohydrates and their role in biotechnology applications.	English: 10.5, 11.5, 12.5 Science: BIO.2	
Explain the function of lipids and their role in biotechnology applications.	English: 10.5, 11.5, 12.5 Science: BIO.2	
Perform separation and purification of macromolecules.		BS.02.03 BS.03.06
Demonstrate the use of basic instrumentation in DNA analysis.	Science: BIO.2	BS.02.05
Exploring Biotechnology in Environmental Science		

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Assess the social effects of environmental quality management.	English: 10.5, 10.8, 11.5, 11.8, 12.5, 12.8 History and Social Science: GOVT.1, GOVT.15, VUS.1, VUS.14, WG.1, WG.2	BS.01.02
Investigate the purpose and design of biological treatment systems.	English: 10.8, 11.8, 12.8	BS.03.06
Describe a bioremediation and biorestation system.	English: 10.5, 11.5, 12.5	BS.03.06
Applying Biotechnology to Agricultural Species		
Investigate procedures used with tissue culture.	English: 10.8, 11.8, 12.8	BS.03.04
Identify microbial applications in agriculture and the environment.	English: 10.5, 11.5, 12.5	BS.02.02 BS.03.02
Summarize the role of biotechnology in plant and/or animal modification.	English: 10.5, 11.5, 12.5 History and Social Science: VUS.14, WG.1, WG.17, WG.18 Science: BIO.5	BS.03.04
Outline the factors that jeopardize food safety.	English: 10.6, 10.7, 11.6, 11.7, 12.6, 12.7	BS.01.02
Examine advances of biotechnology in food science.	English: 10.5, 11.5, 12.5	BS.03.02
Exploring Bioprocessing		
Define <i>bioprocessing</i> .	English: 10.3, 11.3, 12.3	
Describe the process of industrial fermentation.	English: 10.5, 11.5, 12.5 Science: BIO.2	BS.03.02
Investigate products generated from bioprocessing.	English: 10.8, 11.8, 12.8	BS.03.06

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Describe genetic engineering applications used in bioprocessing.	English: 10.5, 11.5, 12.5 Science: BIO.5	BS.03.03 BS.03.06
Demonstrate the application of microbes in bioprocessing.	English: 10.5, 11.5, 12.5	BS.03.06
Identify bioprocessing systems.	English: 10.5, 11.5, 12.5	
Investigating Genome Sciences		
Define <i>genomics</i> .	English: 10.3, 11.3, 12.3 Science: BIO.5	
Develop a historic timeline of milestones in genomics.	English: 10.6, 10.7, 10.8, 11.6, 11.7, 11.8, 12.6, 12.7, 12.8 History and Social Science: GOVT.1, GOVT.15, VUS.1, VUS.14, WHII.1, WHII.13, WHII.14 Science: BIO.1, BIO.5	BS.01.01
Describe the importance of the genetic information contained in DNA.	English: 10.5, 11.5, 12.5 Science: BIO.5	BS.02.05
Demonstrate techniques for DNA extraction.	Science: BIO.1, BIO.5	BS.02.05
Explain how genomics is related to disease prevention.	English: 10.5, 11.5, 12.5	
Explain the importance of bioinformatics.	English: 10.3, 10.5, 11.3, 11.5, 12.3, 12.5	BS.02.01
Describe the relationship between reproduction and genetic improvement.	English: 10.5, 11.5, 12.5	BS.02.05
Describe current technologies for genetic modification of plants, animals, and microbes.	English: 10.5, 10.8, 11.5, 11.8, 12.5, 12.8 Science: BIO.5	BS.03.04

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Examining the Role of Biotechnology in Medicine		
Outline the contributions of plant, animal, and microbial biotechnology to medicine.	English: 10.6, 10.7, 11.6, 11.7, 12.6, 12.7 History and Social Science: GOVT.1, GOVT.9, GOVT.11, GOVT.15, VUS.1, VUS.14	BS.03.03 BS.03.04
Describe the ethical, legal, and social effects of biomedicine.	English: 10.5, 11.5, 12.5 History and Social Science: GOVT.1, GOVT.9, GOVT.11, GOVT.15, VUS.1, VUS.14, WG.18	BS.01.03
Explain vaccine (immunology) research and development.	English: 11.5, 12.5 Science: BIO.4	BS.03.04
Identify emerging healthcare technologies.	English: 10.5, 11.5, 12.5 History and Social Science: VUS.14, WHII.13	
Explain the applications of genomics in pharmacology.	English: 10.5, 11.5, 12.5	BS.03.04
Describe the effects of biotechnology on preventive health care.	English: 10.5, 11.5, 12.5 History and Social Science: GOVT.15, WG.1, WG.2, WG.3, WG.4, WG.17, WG.18	
Investigating Forensics		
Define <i>forensic science</i> .	English: 10.3, 11.3, 12.3	
Describe situations in which medical forensics can be used in agriculture.	English: 10.5, 11.5, 12.5	BS.03.04
Describe situations in which forensic science can be used in criminal investigations related to agriculture.	English: 10.5, 11.5, 12.5	
Describe situations in which biological forensic science can be used.	English: 10.5, 11.5, 12.5	BS.03.03

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Understanding Bioengineering		
Define <i>bioengineering</i> .	English: 10.3, 11.3, 12.3	BS.03.01
Identify uses of nanobiotechnology.	English: 10.5, 11.5, 12.5	
Describe how bioengineering can affect food security.	English: 10.5, 11.5, 12.5	BS.03.04
Propose a bioengineering solution to an agricultural/environmental problem.	English: 10.5, 11.5, 12.5	BS.03.06
Examining Social Aspects and Ethics of Biotechnology		
Define <i>bioethics</i> .	English: 10.3, 11.3, 12.3	BS.01.03
Analyze the effects of biotechnology in agriculture.	English: 10.5, 11.5, 12.5 History and Social Science: WHII.1	BS.01.01
Differentiate among ethical principles and legal issues as they relate to biotechnology.	English: 10.5, 11.5, 12.5 History and Social Science: GOVT.1, GOVT.3, GOVT.9, GOVT.11, GOVT.15, VUS.14	
Research regulations related to biotechnology in agriculture.	English: 10.8, 11.8, 12.8 History and Social Science: GOVT.9, GOVT.11, GOVT.15	BS.01.02