

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. | <p>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</p> <p>History and Social Science: CE.1, CE.4, 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, 6.7, 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*</p> <p>Science: 6.1, BIO.1, CH.1, ES.1, LS.1, PS.1</p> | |
| Demonstrate critical thinking and problem solving. | <p>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</p> | |

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| | <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> | |

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| | 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 | |

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| 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. | | |

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| 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, WHIL.8, WHIL.10, WHIL.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 |

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| | 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, WHIL.1, WHIL.13, WHIL.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 |

| Task | | SOL Correlations | Agriculture, Food and Natural Resources Content Standards |
|--|---|------------------|---|
| 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 |