

# Standards Correlations

## Biological Applications in Agriculture (8086)

| Task  | SOL Correlations  |
|---|---|
| <b>Demonstrating Personal Qualities and Abilities</b> |   |
| 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<br>History and Social Science: CE.1, CE.4, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WG.4, WHI.1, WHII.1<br>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*<br>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<br>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<br>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*<br>Science: 6.1, BIO.1, CH.1, ES.1, LS.1, PS.1 |

| <b>Task</b>                                | <b>SOL Correlations</b>  |
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| Demonstrate initiative and self-direction. | 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<br>History and Social Science: CE.1, CE.4, CE.11, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1 |
| Demonstrate integrity.                     | English: 6.1, 7.1, 8.1, 9.1, 9.5, 10.1, 10.5, 11.1, 11.5, 12.1, 12.5<br>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   |
| Demonstrate work ethic.                    | English: 6.1, 7.1, 8.1, 9.1, 10.1, 11.1, 12.1<br>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<br>Science: CH.1  |
| <b>Demonstrating Interpersonal Skills</b>  |  |
| 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<br>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<br>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<br>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<br>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  |

| Task  | SOL Correlations   |
|---|--|
|   | 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   |
| <b>Demonstrating Professional Competencies</b>    |  |
| 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<br>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<br>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<br>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<br>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<br>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<br>History and Social Science: CE.1, CE.4, CE.11, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1<br>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 |

| Task  | SOL Correlations   |
|---|--|
| Demonstrate information-literacy skills.  | 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<br>History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1<br>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*<br>Science: 6.1, BIO.1, CH.1, ES.1, LS.1, PH.1, PS.1 |
| Demonstrate an understanding of information security.   | 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<br>History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1<br>Mathematics: COM.10  |
| Maintain working knowledge of current information-technology (IT) systems.                      | 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<br>History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1<br>Mathematics: 7.8, COM.1, COM.2, COM.7, COM.9, COM.10, COM.11, COM.16, COM.18, PS.17<br>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<br>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<br>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   |

| Task   | SOL Correlations  |
|--|---|
|  | History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1<br>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<br>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<br>History and Social Science: CE.1, CE.4, CE.14, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1   |
| 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<br>History and Social Science: CE.1, CE.4, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1<br>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<br>History and Social Science: CE.1, CE.4, GOVT.1, USI.1, USII.1, VUS.1, WG.1, WHI.1, WHII.1<br>Science: CH.1   |
| <b>Examining All Aspects of an Industry</b>                                  |   |
| 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        |   |

| <b>Task</b>   | <b>SOL Correlations</b>             |
|---|-------------------------------------|
| 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 industry/organization.   | History and Social Science: GOVT.16 |
| Examine health, safety, and environmental issues related to an industry/organization.   | History and Social Science: GOVT.16 |
| <b>Addressing Elements of Student Life</b>  |                                     |
| 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.   |                                     |
| <b>Exploring Work-Based Learning</b>  |                                     |
| 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.   |                                     |

| <b>Task</b>  | <b>SOL Correlations</b>   |
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| Participate in a WBL experience, when appropriate.   |   |
| <b>Exploring Leadership Opportunities through FFA</b>  |   |
| 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<br>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  |
| <b>Understanding the Study of Living Things</b>  |   |
| Describe the relationship between agriculture and biology.                                   | English: 9.3, 9.5, 10.3, 10.5<br>History and Social Science: WHI.2, WHI.3, WHI.4, WHI.5, WHI.6, WHI.10, WHI.14, WHII.4<br>Science: BIO.3, BIO.5 |
| Explain the key steps of the scientific method.  | English: 9.5, 9.6, 9.7, 10.5, 10.6, 10.7<br>Science: BIO.1, CH.1, ES.2, PH.1  |
| Develop experimental procedures to solve a problem or answer a question.                     | English: 9.1, 9.5, 10.1, 10.5<br>History and Social Science: WHII.4<br>Science: BIO.1, CH.1, ES.2, PH.1   |

| <b>Task</b>  | <b>SOL Correlations</b>   |
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| Demonstrate safe laboratory practices.   | English: 9.8, 10.8<br>History and Social Science: GOVT.8<br>Science: CH.1                     |
| Describe the relationship between atoms and molecules.                             | English: 9.5, 10.5<br>Science: CH.2   |
| Describe how organisms are identified and classified.                              | English: 9.5, 9.8, 10.5, 10.8<br>Science: BIO.4, BIO.6  |
| Identify the role of federal, state, and local regulatory agencies in agriculture. | English: 9.5, 9.8, 10.5, 10.8<br>History and Social Science: GOVT.7, GOVT.8, GOVT.14, GOVT.15 |
| <b>Understanding Cell Structure and Functions</b>                                  |   |
| Describe the cell as the building block of life.                                   | English: 9.5, 10.5<br>History and Social Science: WHII.4<br>Science: BIO.3                    |
| Analyze the differences between plant and animal cells.                            | English: 9.5, 10.5<br>History and Social Science: WHII.4<br>Science: BIO.3                    |
| Compare prokaryotic and eukaryotic cells.  | English: 9.5, 10.5<br>History and Social Science: WHII.4                                      |

| Task  | SOL Correlations  |
|---|---|
|   | Science: BIO.3  |
| Analyze cell components.  | History and Social Science: WHII.4<br><br>Science: BIO.3  |
| Explain how cell structure and function are used to improve agricultural practices. | English: 9.5, 10.5<br><br>History and Social Science: WHII.4<br><br>Science: BIO.3                                |
| Explain the cell's surface area to volume ratio.                                    | English: 9.5, 10.5<br><br>History and Social Science: WHII.4<br><br>Mathematics: G.13, G.14<br><br>Science: BIO.3 |
| Explain the process of diffusion.   | English: 9.5, 10.5<br><br>Science: BIO.3  |
| Explain the process of osmosis.   | English: 9.5, 10.5<br><br>Science: BIO.3  |
| Explain the concept of homeostasis.   | English: 9.5, 10.5<br><br>History and Social Science: WHII.4<br><br>Science: BIO.3                                |
| Explain the processes of mitosis and meiosis.                                       | English: 9.5, 10.5  |

| <b>Task</b>  | <b>SOL Correlations</b>   |
|--|---|
|  | Science: BIO.5  |
| <b>Understanding Basic Genetics</b>  |   |
| Explain Mendelian principles of inheritance.                                     | English: 9.5, 10.5<br>Science: BIO.5                                |
| Analyze a Punnett square.  | English: 9.5, 10.5<br>Mathematics: PS.11*, PS.12*<br>Science: BIO.5 |
| Describe the structures and components of DNA molecules.                         | English: 9.5, 10.5<br>Science: BIO.5                                |
| Describe the function and replication of nucleic acids.                          | English: 9.5, 10.5<br>Science: BIO.5                                |
| Discuss the process of DNA transfer.   | English: 9.1, 10.1<br>Science: BIO.5                                |
| Explain how genetic principles are used in animal and plant breeding.            | English: 9.5, 10.5<br>Science: BIO.5                                |
| Explain how hybrid plants and animals are developed.                             | English: 9.5, 10.5<br>Science: BIO.5                                |
| Describe how genetic modification is used in animal and plant breeding programs. | English: 9.5, 10.5  |

| <b>Task</b>  | <b>SOL Correlations</b>   |
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| Identify how technology is used in the selection of breeding animals and plants.                         | English: 9.5, 10.5  |
| Explain the role of genetic mutations in animal and plant breeding.                                      | English: 9.5, 10.5<br>Science: BIO.5  |
| <b>Explaining Principles of Genetic Engineering</b>  |   |
| Explain the principles of genetic engineering.   | English: 9.5, 10.5<br>Science: BIO.5  |
| Describe how genetic engineering is used in agriculture.   | English: 9.5, 10.5<br>History and Social Science: GOVT.12, VUS.14, WG.17, WHII.14                                   |
| Compare genetic engineering and genetic modification in agriculture, food, and natural resources (AFNR). | English: 9.5, 10.5<br>History and Social Science: GOVT.12, VUS.14, WG.17, WHII.14                                   |
| Identify emerging trends in genetic engineering.   | English: 9.5, 10.5<br>History and Social Science: GOVT.12, VUS.14, WG.17, WHII.14<br>Science: BIO.5                 |
| Analyze ethical issues related to genetic engineering.   | English: 9.5, 10.5<br>History and Social Science: GOVT.12, VUS.14, WG.17, WHII.14<br>Science: BIO.5                 |
| Summarize the laws affecting genetically altered organisms.  | English: 9.5, 10.5<br>History and Social Science: GOVT.7, GOVT.8, GOVT.12, GOVT.14, GOVT.15, VUS.14, WG.17, WHII.14 |

| <b>Task</b>   | <b>SOL Correlations</b>  |
|---|--|
| Explain safety procedures and policies related to genetic engineering and the laboratory. | English: 9.5, 9.8, 10.5, 10.8<br>History and Social Science: GOVT.12, VUS.14, WG.17, WHII.14 |
| <b>Understanding Basic Plant Structures, Functions, and Nutrition</b>                     |  |
| Explain the life-sustaining processes by which all plants grow and develop.               | English: 9.5, 10.5<br>Science: BIO.2   |
| Describe factors that affect plant growth.  | English: 9.5, 10.5<br>Science: BIO.2   |
| Describe the movement of minerals, water, and nutrients in plants.                        | English: 9.5, 10.5<br>Science: BIO.2   |
| Describe the methods plants use to store food.  | English: 9.5, 10.5   |
| Explain how plants protect themselves from diseases, insects, and predators.              | English: 9.5, 10.5   |
| Compare the primary methods of asexual reproduction.                                      | English: 9.5, 10.5   |
| Explain the advantages and disadvantages of soilless plant production.                    | English: 9.5, 10.5   |
| <b>Understanding Fundamentals of Animal Nutrition</b>                                     |  |
| Describe the anatomy and physiology of domestic animals.                                  | English: 9.5, 10.5<br>Science: BIO.4   |
| Explain the four major classes of macromolecules.   | English: 9.5, 10.5<br>Science: BIO.2   |
| Explain nutrition requirements for animals.   | English: 9.5, 10.5   |

| <b>Task</b>  | <b>SOL Correlations</b>  |
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| Calculate the amount of feed needed based on energy requirements.                                      | History and Social Science: GOVT.7, GOVT.8, GOVT.14, GOVT.15<br>Mathematics: A.1, A.4        |
| Describe the roles of non-nutritive factors in feed.   | English: 9.5, 10.5   |
| Identify toxic substances that can harm animals.   | English: 9.5, 10.5   |
| Calculate the feed conversion ratio (FCR).   | Mathematics: A.1, A.4  |
| <b>Understanding Principles of Animal Health</b>   |  |
| Evaluate overall health or homeostasis for a domestic animal species.                                  | English: 9.5, 10.5   |
| Define terms associated with disease conditions.   | English: 9.3, 9.5, 10.3, 10.5<br>Science: BIO.4  |
| Define terms associated with severity of disease or condition.   | English: 9.3, 9.5, 10.3, 10.5  |
| Compare treatment methods.   | English: 9.5, 10.5   |
| Explain disease resistance.  | English: 9.5, 10.5<br>History and Social Science: GOVT.12, VUS.14, WG.17, WHII.14            |
| Outline best management practices (BMP) for preventing disease outbreaks in a domestic animal species. | English: 9.6, 9.7, 10.6, 10.7<br>History and Social Science: GOVT.12, VUS.14, WG.17, WHII.14 |
| <b>Understanding Principles of Water and Soil Quality</b>  |  |
| Define terms related to water quality management.  | English: 9.3, 9.5, 10.3, 10.5  |
| Explain factors that affect dissolved oxygen concentrations in water.                                  | English: 9.5, 10.5   |
| Explain how turbidity affects water quality.   | English: 9.5, 10.5   |

| <b>Task</b>  | <b>SOL Correlations</b>  |
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| Identify BMP for water management.                                     | English: 9.5, 9.8, 10.5, 10.8  |
| Explain how water quality affects aquatic life.                        | English: 9.5, 10.5   |
| Conduct a water analysis.  | English: 9.6, 9.7, 10.6, 10.7<br>Mathematics: A.8, A.9, AFDA.8, PS.1*, PS.2*, PS.3*, PS.4* |
| Analyze key issues related to water quality and agriculture.           | English: 9.5, 10.5<br>History and Social Science: GOVT.12, VUS.14, WG.17, WHII.14          |
| Identify the components of a soil profile used in nutrient management. | English: 9.5, 10.5<br>Science: ES.8  |
| Identify the particles that make up the structure of soil.             | English: 9.5, 10.5<br>Science: ES.8  |
| Explain the purpose of testing soil fertility.                         | English: 9.5, 10.5   |
| Conduct a soil test.   | English: 9.1, 9.5, 10.1, 10.5  |