

Standards Correlations

Introduction to Plant Systems (8007)

Task	SOL Correlations
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 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 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* Science: 6.1, BIO.1, CH.1, ES.1, LS.1, PS.1

Task	SOL Correlations
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 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 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 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 Science: CH.1
Demonstrating Interpersonal Skills	
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

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	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 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

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 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, 7.8, 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* 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 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: 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 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: 7.8, COM.1, COM.2, COM.7, COM.9, COM.10, COM.11, COM.16, COM.18, PS.17 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

Task	SOL Correlations
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
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	

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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 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
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.	

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Participate in a WBL experience, when appropriate.	
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
Introducing Botany	
Explain the importance of plant taxonomy.	English: 9.5, 10.5 Science: BIO.4, BIO.6
Identify major plant parts and their primary functions.	Science: BIO.4
Explain the characteristics of plants.	Science: BIO.4, BIO.6
Differentiate between plant life cycles based on classification.	English: 9.5, 10.5 Science: BIO.4
Describe the growth stages of a plant.	English: 9.5, 10.5 Science: BIO.4
Illustrate the importance of plant systems in relation to humans.	History: WG 17, WHII 14, VUS 14, Govt 9, 12, 14, 15 Science: BIO.8
Discuss the major disciplinary fields of plant agriculture.	English: 9.1, 10.1 Science: BIO.1, BIO.5
Research innovative plant breeding technologies.	English: 9.8, 10.8 History: WG 17, WHII 14, VUS 14, Govt 9, 12, 14, 15 Science: BIO.5

Task	SOL Correlations
Understanding Plant Processes	
Explain the life-sustaining processes by which all plants grow and develop.	English: 9.5, 10.5 Science: BIO.2
Explain the process of osmosis.	English: 9.5, 10.5 Science: BIO.3
Explain the process of diffusion.	English: 9.5, 10.5 Science: BIO.3
Evaluating the Environmental Stimuli that Affect Plant Growth and Development	
Evaluate the effect of light on plants.	English: 9.5, 10.5 Science: BIO.1, BIO.2
Evaluate the effect of temperature on plants.	English: 9.5, 10.5 History: WG 17, WHII 14, VUS 14 Science: BIO.1, BIO.2
Evaluate the effect of water on plants.	English: 9.5, 10.5 History: WG 17, WHII 14, VUS 14 Science: BIO.1, BIO.2
Evaluate the effect of carbon dioxide (CO ₂), oxygen, and airflow on plants.	English: 9.5, 10.5 History: WG 17, WHII 14, VUS 14, Govt 9, 12, 14, 15 Science: BIO.1, BIO.2
Evaluate types and components of greenhouses and other indoor plant-growing facilities.	English: 9.5, 10.5
Demonstrating Sexual Propagation in the Production of Plants	
Examine the advantages and disadvantages of sexual propagation in the development of new plant varieties.	English: 9.5, 10.5 Science: BIO.5
Plant seeds using various methods.	
Analyze scarification and stratification methods that aid in the propagation process.	English: 9.5, 10.5
Describe the germination process.	English: 9.5, 10.5
Calculate the germination rates of seeds.	
Demonstrate how to transplant seedlings.	English: 9.5, 10.5
Demonstrating Methods of Asexual Propagation in the Production of Plants	

Task	SOL Correlations
Examine the advantages and disadvantages of asexual propagation in the production of plants.	English: 9.5, 10.5 Science: BIO.5
Demonstrate how to produce plants through cuttings.	
Demonstrate how to produce plants by layering.	
Demonstrate how to produce plants through division and separation.	
Describe grafting and budding techniques for woody and herbaceous plants.	English: 9.5, 10.5
Describe how to produce plants through micropropagation.	English: 9.5, 10.5
Evaluate cultural practices for vegetable crops grown in a greenhouse.	English: 9.5, 10.5 History: WG 17, WHII 14, VUS 14, Govt 9, 12, 14, 15
Managing Plants: Soil and Soilless Growing Systems	
Evaluate the physical and chemical properties of soil and soilless substrates.	English: 9.5, 10.5 Science: ES.8
Amend substrates for optimal plant growth.	
Collect a soil sample for evaluation.	English: 9.5, 10.5 Science: ES.8
Analyze soil sample for nutrients and pH.	English: 9.5, 10.5 Science: ES.8
Describe hydroponic, aquaponic, and aeroponic plant production.	English: 9.5, 10.5
Investigating the Principles of Plant Nutrition	
Evaluate the effects of primary and secondary macronutrients on plant growth and development.	English: 9.5, 10.5 Science: BIO.2
Evaluate the effects of micronutrients on plant growth and development.	English: 9.5, 10.5 Science: BIO.2
Diagnose nutrient deficiencies in plants.	English: 9.5, 10.5
Describe fertilizer application methods.	English: 9.5, 10.5
Using Basic Scientific Principles in Plant Pest Management	
Identify the common invertebrates that affect plant growth and development.	English: 9.3, 9.5, 10.3, 10.5 Science: BIO.4, BIO.8

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Identify abiotic and biotic factors influencing plant growth and development.	English: 9.5, 10.5 Science: BIO.4, BIO.8
Classify common weeds that affect plant growth.	English: 9.3, 9.5, 10.3, 10.5 Science: BIO.4, BIO.8
Classify types of vertebrate pests that affect plant growth.	English: 9.5, 10.5 Science: BIO.4, BIO.8
Explain methods of plant pest management.	English: 9.5, 10.5
Interpret the information on a pesticide label.	English: 9.5, 10.5
Identify the application of different types of pesticides.	English: 9.5, 10.5
Using Basic Scientific Skills and Principles in Plant Selection	
Identify U.S. Department of Agriculture (USDA) plant hardiness zones and how they affect plant selection.	English: 9.5, 10.5 History: Govt 7, 8, 9, 12, 14, 15
Evaluate the common tree species of Virginia.	English: 9.5, 10.5 History: Govt 7, 8, 9, 12, 14, 15 Science: BIO.4, BIO.8
Evaluate the common species of agronomic plants grown in Virginia.	English: 9.5, 10.5 History: Govt 7, 8, 9, 12, 14, 15 Science: BIO.6, BIO.8
Evaluate common species of fruits and vegetables grown in Virginia.	English: 9.5, 10.5 History: Govt 7, 8, 9, 12, 14, 15 Science: BIO.6, BIO.8
Evaluate common species of nursery and landscape horticulture plants grown in Virginia.	English: 9.5, 10.5 History: Govt 7, 8, 9, 12, 14, 15 Science: BIO.6, BIO.8
Evaluate common species of turfgrass grown in Virginia.	English: 9.5, 10.5 History: Govt 7, 8, 9, 12, 14, 15 Science: BIO.6, BIO.8
Evaluate common species of floriculture crops grown in Virginia.	English: 9.5, 10.5 History: Govt 7, 8, 9, 12, 14, 15 Science: BIO.6, BIO.8
Incorporating Mechanical Skills Related to the Plant Systems Pathway	

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Demonstrate safety practices and procedures in various areas associated with agricultural mechanics in plant systems.	English: 9.5, 10.5 History: Govt 7, 8, 9, 12, 14, 15 Science: CH.1
Demonstrate equipment safety and operation as they relate to the plant systems pathway.	English: 9.5, 10.5
Demonstrate standard measurement techniques in plant systems.	English: 9.5, 10.5 Mathematics: A.1, A.4 Science: ES.1
Demonstrate drawing for agricultural mechanics as it relates to the plant systems pathway.	English: 9.5, 10.5 Mathematics: G.14
Examine metalworking operations as they relate to the plant systems pathway.	English: 9.5, 10.5
Examine woodworking operations as they relate to the plant systems pathway.	English: 9.5, 10.5
Examine electrical operations as they relate to the plant systems pathway.	English: 9.5, 10.5 Mathematics: A.1, A.4 Science: PH.11
Examine small-engine operations as they relate to the plant systems pathway.	English: 9.5, 10.5
Examine plumbing operations as they relate to the plant systems pathway.	English: 9.5, 10.5 Mathematics: A.1, A.4, G.8, G.13