
Unit Assessment:	Participation in Discussion, Research Report, Group Investigation Report
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Unit/Course CTSO Activity:	Students will participate in Career Development Events and Personal S.A.E.
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Unit/Course Culminating Product:	Students will complete a report on a chosen career.
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Course/Program Credential(s): <input type="checkbox"/> Credential <input checked="" type="checkbox"/> Certificate <input type="checkbox"/> Postsecondary Degree <input checked="" type="checkbox"/> University Degree <input type="checkbox"/> Other:

Course Title: Greenhouse Production and Management

Unit: 2	Safety
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Content Standard(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> Describe safety precautions related to the greenhouse production and management industry.
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Learning Objective(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> Explain why accidents occur. Explain the importance of safety in greenhouse management. Describe ways to prevent accidents. Identify personal protective equipment and how it is used. Identify safety precautions when using hand and power tools. Identify safety precautions necessary when handling, applying, and storing chemicals.
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Essential Question(s):	What are some safety considerations and procedures for greenhouse management?
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Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
<p>I. Safety Considerations and Procedures</p> <ol style="list-style-type: none"> Accidents defined Accident prevention Personal Protective Equipment Hand Tool Safety Power tool Safety Chemical Safety 	<p>Guest Speakers Case Studies Inquiry Research Worksheets Field Trips</p>	<p>Computer and Printer CDs Software Handouts Videos Lab Equipment Student Equipment</p>

Unit Assessment:	Participation in Discussion, Homework, Inventories, Posters, Scenarios, Tests
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Unit/Course CTSO Activity:	Horticultural related CDEs
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Unit/Course Culminating Product:	Students will design a safety program for working in the greenhouse industry.
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Course/Program Credential(s): <input type="checkbox"/> Credential <input type="checkbox"/> Certificate <input type="checkbox"/> Postsecondary Degree <input checked="" type="checkbox"/> University Degree <input type="checkbox"/> Other:
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<p>cutting</p> <ol style="list-style-type: none"> 1. Vein Cutting 2. Leaf Bud Cutting <p>F. Grafting and Common Methods of Grafting</p> <ol style="list-style-type: none"> 1. Whip-and-tongue 2. Cleft 3. Bark <p>G. Separation and Division</p> <ol style="list-style-type: none"> 1. Bulbs 2. Corms 3. Rhizomes and Tubers 4. Plant Crowns <p>H. Tissue Culture</p> <p>I. Seed Propagation</p>	<p>Demonstrations Guided Practice</p> <p>Laboratory Demonstration Guided Practice</p> <p>Laboratory Demonstration Guided Practice Inquiry</p> <p>Guided Practice Experiments Laboratory</p>	<p>Supplies Handouts Lab Supplies Supplies Lab Supplies Teacher Designed Materials</p> <p>Supplies Lab Supplies Teacher Designed Materials Textbooks</p> <p>Handouts Lab Supplies Supplies Teacher Designed Materials</p>
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Unit Assessment:	Rubrics, Tests, Demonstrations, Case Studies, Performance Tasks, Teacher Observation, Experiments
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Unit/Course CTSO Activity:	Students will participate in Nursery Landscape Career Development Event and personal S.A.E.
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Unit/Course Culminating Product:	Students will propagate plants using the various methods of plant propagation.
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Course/Program Credential(s): <input type="checkbox"/> Credential <input type="checkbox"/> Certificate <input type="checkbox"/> Postsecondary Degree <input checked="" type="checkbox"/> University Degree

Other:

Course Title: Greenhouse Production and Management

Unit: 4	Growing Media
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Content Standard(s) and Depth of Knowledge Level(s):	<p>The student will:</p> <ol style="list-style-type: none"> 3. Adjust Greenhouse Growing Media Properties by Adding Amendments. <ul style="list-style-type: none"> • Adjusting the pH of greenhouse growing media 4. Prepare Growing Media Mixtures for Greenhouse Plants.
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Learning Objective(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 1. Describe pH and how it is modified. 2. Discuss the addition of limestone and sulfur. 3. Explain fertilization and fertilizer. 4. Explain and Identify growing media. 5. Describe soil materials and structure.
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Essential Question(s):	What are the properties of greenhouse growing media and how can it be amended?
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Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
<ol style="list-style-type: none"> I. Media Amendments <ol style="list-style-type: none"> A. Modified pH <ol style="list-style-type: none"> 1. Addition of limestone 2. Addition of sulfur 3. Modified nutrients 4. Addition of nitrogen 5. Addition of phosphorous 6. Addition of potassium II. Prepare Growing Media <ol style="list-style-type: none"> A. Organic Components <ol style="list-style-type: none"> 1. Peat moss 2. Sphagnum moss 3. Leaf mold 4. Bark B. Inorganic Components <ol style="list-style-type: none"> 1. Rocks 	<ol style="list-style-type: none"> Experiments Demonstrations Group Investigations Laboratory Observation Logs Research Lecture Experiments Demonstrations Laboratory Guided Practice 	<ol style="list-style-type: none"> Demonstration Computer Projects Experiments PowerPoint Presentations Simulations

2. Minerals		
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Unit Assessment:	Participation in experiments, research projects, observation log, oral presentations, checklist, journal reflections, student designed assessments
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Unit/Course CTSO Activity:	Students will participate in Nursery Landscape Career Development Events and personal S.A.E.s.
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Unit/Course Culminating Product:	Students will design experiments demonstrating the effects of using various growing media and adjusting the pH of growing media in the greenhouse.
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Course/Program Credential(s): <input type="checkbox"/> Credential <input type="checkbox"/> Certificate <input type="checkbox"/> Postsecondary Degree <input checked="" type="checkbox"/> University Degree <input type="checkbox"/> Other:
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	<ul style="list-style-type: none"> • Dissecting seed types to compare anatomical characteristics • Comparing the germination rates of various seeds <p>13. Describe various natural and artificial methods of vegetative propagation. Examples: natural- stem runners, rhizomes, bulbs, tubers artificial- cutting, grafting, layering</p> <ul style="list-style-type: none"> • Monitoring asexual plant propagation through leaf and stem cuttings <p>14. Describe the ecological and economic importance of plants. Examples: ecological-algae-producing oxygen, bioremediation, soil preservation economic-food, medication, timber, fossil fuels, clothing</p> <ul style="list-style-type: none"> • Analyzing effects of human activity on the plant world <p>15. Identify viral, fungal, and bacterial plant diseases and their effects. Examples: viral-tobacco mosaic, Rembrandt tulips; fungal-mildew, rust bacterial-black rot</p>
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<p style="text-align: center;">Learning Objective(s) and Depth of Knowledge Level(s):</p>	<p>Students will:</p> <ol style="list-style-type: none"> 1. Describe the system used in the classification of native Alabama plants. 2. Classify native Alabama plants using dichotomous keys. 3. Describe the difference between vascular and nonvascular plants. 4. Determine if plants are seed bearing or spore bearing. 5. Determine if plants are gymnosperms or angiosperms. 6. Describe the differences between monocots and dicots. 7. Determine the mutual relationship among algae and fungi in lichens. 8. Discuss the alternation of generations of plants. 9. Compare the characteristics of plants and algae. 10. Describe the techniques of tissue culture. 11. Discuss the plant tissues in the roots, stems and leaves. 12. Explain the variations found in root structures, stems, and leaves. 13. Trace the movement of minerals, water, and nutrients in plants. 14. Identify the requirements for hydroponics plant production. 15. Describe the various hydroponics systems. 16. Compare the activity in a plant during exposure to light and periods of darkness. 17. Identify plant growth regulators and their functions. 18. Explain plant tropisms. 19. Describe commercial uses of plant growth regulators. 20. Discuss the various life-cycles of plants. 21. Explain the differences in sexual and asexual reproduction in plants. 22. Discuss the differences between monocot and dicot. 23. Identify the major parts of seeds and their function.
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24. Compare the germination rate of seeds.
25. State the primary methods of asexual reproduction and give examples of plants typically propagated by each method.
26. Explain environment and the issues associated with maintaining a good environment.
27. Explain the ecological and economical importance of plants.
28. Define plant disease and identify the conditions necessary for a plant disease to develop.

Essential Question(s):

What criteria should a student need to discuss the role of plants?

Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
<p>I. Twelve Plant Kingdoms Divisions</p> <p>A. Plant Divisions</p> <ol style="list-style-type: none"> 1. Rhodophyta 2. Cryptophyta 3. Dinophyta 4. Xanthophyta 5. Chrysophyta 6. Bacillariophyta 7. Phaeophyta 8. Chlorophyta 9. Prasinophyta 10. Charophyta 11. Euglenophyta 12. Bryophyta <p>B. Phylogenetic Relationships</p> <ol style="list-style-type: none"> 1. Vascular 2. Nonvascular 3. Seed-bearing 4. Spore-bearing 5. Gymnosperms 6. Angiosperms 7. Monocots 8. Dicots 9. Mutualism (algae, fungi) 	<p>Application Cards Collaborative Learning Flash Cards Worksheets Memorization</p> <p>Laboratory Experiments Application Cards Worksheets</p> <p>Case Studies/Scenarios Research</p>	<p>Application Cards Handouts Checklists Lead Questions Computer and Printer Textbooks</p> <p>Handouts Internet Application Cards Computer and Printer</p> <p>Lead Questions Handouts</p>

<p>C. Plant adaptations</p> <ol style="list-style-type: none"> 1. Alterations of generations 2. Comparing characteristics 	<p>Experiments Laboratory Application Cards Memorization</p>	<p>Textbooks</p>
<p>D. Major Plant Tissues</p> <ol style="list-style-type: none"> 1. Tissue culturing 	<p>Guided Practice Application Cards Laboratory</p>	<p>Rubric for Project Handouts Reference books Supplies</p>
<p>E. Types of Roots, Stems, and Leaves</p>	<p>Guest Speakers Demonstrations Guided Practice</p>	
<p>F. Soil Types, Texture, and Nutrients</p> <ol style="list-style-type: none"> 1. Water and Mineral Absorption 2. Capillarity and Turgor Pressure 3. Hydroponics 	<p>Inquiry Research Laboratory Experiments</p>	<p>Handouts Textbooks Rubric for Project Reference PowerPoint Presentation</p>
<p>G. Plant Cell Processes</p>		<p>PowerPoint Presentation Handouts Lab Supplies</p>
<p>H. Plant Stimuli Response</p> <ol style="list-style-type: none"> 1. Effects of Hormones 2. Tropisms 3. Propagating 	<p>Lecture Laboratory Learning Logs Demonstrations Instructional Technology Experiments</p>	<p>Lab Supplies</p>
<p>I. Identify Life Cycles</p>	<p>Lecture</p>	<p>PowerPoint Presentation</p>
<p>J. Structure and Function of Flower Parts</p> <ol style="list-style-type: none"> 1. Seed Germination, Development, and Dispersal 2. Germinating Monocot and Dicot 3. Dissecting Seeds 4. Germination Rates 	<p>Laboratory Experiments Guided Practice</p> <p>Research Cooperative Learning</p>	<p>Lab Supplies</p> <p>Lab Supplies Handouts Computer and Printer</p>
<p>K. Natural and Artificial Germination</p> <ol style="list-style-type: none"> 1. Asexual Propagation 	<p>Research Experiments Cooperative Learning Inquiry Homework</p>	

L. Ecological and Economic Importance 1. Effects of Human Activity M. Viral, Fungal, and Bacterial Disease	Research	Computer and Printer
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Unit Assessment:	Tests, Research Report, Performance Tasks, Oral Presentations, Checklist, Demonstrations, Checklist, Group Project, Essays, Experiments, and Teacher Observations
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Unit/Course CTSO Activity:	Horticultural related CDEs
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Unit/Course Culminating Product:	Students will create a PowerPoint presentation culminating the information for discussing the role of plants.
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Course/Program Credential(s): <input type="checkbox"/> Credential <input type="checkbox"/> Certificate <input type="checkbox"/> Postsecondary Degree <input type="checkbox"/> University Degree <input type="checkbox"/> Other:

Course Title: Greenhouse Production and Management

Unit: 6	Greenhouse Production
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<p>Content Standard(s) and Depth of Knowledge Level(s):</p>	<p>Students will:</p> <ol style="list-style-type: none"> 8. Differentiate among environmental factors affecting greenhouse plant growth. <ul style="list-style-type: none"> • Controlling environmental conditions for plant growth in the greenhouse Examples: temperature control, ventilation, watering 9. Produce seasonal greenhouse crops. Examples: winter- poinsettias spring-trumpet lilies 10. Identify common greenhouse plant disorders. Examples: root rot, insect damage, fungus 11. Select types of fertilizer and methods of application used in greenhouse production.
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<p>Learning Objective(s) and Depth of Knowledge Level(s):</p>	<p>Students will:</p> <ol style="list-style-type: none"> 1. Describe the effects of light on plants. 2. Describe a plant's temperature needs. 3. Explain how the quality of air affects plants. 4. Describe a plants water needs. 5. Describe the importance and scope of the bedding plant industry. 6. Describe the importance and scope of scope of the foliage plant industry. 7. Explain the production practices used in growing bedding plants. 8. Explain the production practices used in growing foliage plants. 9. Describe the production practices for potted tulips, amaryllis etc. 10. Discuss the factors involved in getting bedding plants started. 11. Describe techniques used to force daffodils, hyacinths, crocus, dwarf iris, grape-hyacinth, and lilies. 12. Explain practices used in caring for foliage plants in the home or office. 13. Discuss how diseases can be controlled in fruit and vegetable gardens. 14. Discuss how insects can be controlled in fruit and vegetable gardens. 15. Discuss how weeds can be controlled in fruit and vegetable gardens 16. Identify the major categories of pests found in the greenhouse. 17. Discuss pest control techniques used in a greenhouse. 18. Describe the different practices of integrated pest management used in the greenhouse. 19. Describe the classification of plant diseases. 20. Explain scouting, identification, and diagnosis of plant diseases. 21. Explain control of plant diseases. 22. Identify strategies used in disease management.
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Essential	What criteria should students use when selecting and planting flowers and vegetables?
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Question(s):

Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
<p>I. Environmental Factors</p> <p>A. Environmental Conditions</p> <ol style="list-style-type: none">1. Temperature Control2. Ventilation3. Watering4. Light <p>II. Producing Seasonal Crops</p> <p>A. Spring Crops</p> <ol style="list-style-type: none">1. Vegetable crops2. Lilies3. Fruit4. Daffodils5. Crocus6. Hyacinths7. Tulips8. Amaryllis9. Iris <p>B. Winter Crops</p> <ol style="list-style-type: none">1. Poinsettias2. Chrysanthemums3. Cyclamen <p>III. Common Greenhouse Plant Disorders</p> <ol style="list-style-type: none">A. FungiB. BacteriaC. VirusesD. ParasitesE. MicroorganismsF. NematodesG. InsectsH. RodentsI. Animals <p>IV. Fertilizer Types and Application</p> <ol style="list-style-type: none">A. Chemical fertilizersB. Organic fertilizersC. SpreadersD. Injectors	<p>Laboratory Experiments Guided practice Group Investigations Observation Logs Work Based Learning</p> <p>Guided Practice Inquiry Experiments Laboratory Research Group Investigations Learning Logs</p> <p>Lecture Inquiry Laboratory Experiments Group Investigations Learning Logs Oral Presentations</p> <p>Research Laboratory Experiments</p>	<p>Lead Questions PowerPoint Presentation Textbook Internet Computer and Printers Lab Equipment Posters Group Projects Demonstrations</p> <p>Experiments Checklist Projects Computer and Printer Web site PowerPoint Presentation</p> <p>Experiments PowerPoint Computer and printer Website Checklist Projects Internet</p>

E. Drip tubes F. Fertigation	Demonstrations Guided Practice Observation Logs Oral Presentations	Experiments Checklist Research Projects Computer and printer Internet Reference books
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Unit Assessment:	Participation in Discussion, Research Project, Observation Log, Group Investigation Report, Analysis, Application , Project and Project Presentation
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Unit/Course CTSO Activity:	Students participate in Nursery Landscape Event. Students develop SAE activity.
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Unit/Course Culminating Product:	Students will grow crops and plants in the greenhouse for sale to the public.
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Course/Program Credential(s): <input type="checkbox"/> Credential <input type="checkbox"/> Certificate <input type="checkbox"/> Postsecondary Degree <input checked="" type="checkbox"/> University Degree <input type="checkbox"/> Other:
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Course Title: Greenhouse Production and Management

Unit: 7	Greenhouse Pest Control
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Content Standard(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <p>12. Apply Pesticides to Greenhouse Crops.</p> <ul style="list-style-type: none"> • Identifying safety and first aid precautions in greenhouse management • Using correct pesticides for intended target in greenhouse management • Disposing of containers and leftover pesticide mixtures according to Environmental Protection Agency (EPA) standards
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Learning Objective(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 1. Discuss Materials Safety Data Sheets for greenhouse pests. 2. Discuss first-aid procedures and precautions for greenhouse pesticides. 3. Explain how to properly calibrate equipment used in applying pesticides. 4. Discuss correct procedure for matching the pesticide to the pest. 5. Discuss the correct procedure for disposing of leftover pesticides and containers.
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Essential Question(s):	What is the correct procedure for using pesticides in the greenhouse production industry?
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Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
<p>I. Materials Safety Data Sheets</p> <ul style="list-style-type: none"> A. Insecticides B. Herbicides C. Rodenticides D. Fertilizers E. Other chemicals <p>II. First Aid Procedures and Precautions</p> <ul style="list-style-type: none"> A. Personal protective equipment B. Safety shower C. Chemical suits D. Emergency washing stations E. Chemical labels 	<p>Lecture</p> <p>Simulations</p> <p>Research</p> <p>Guest speaker</p> <p>Inquiry</p> <p>Worksheet</p> <p>Guest speaker</p> <p>Inquiry</p> <p>Worksheet</p> <p>Demonstration</p> <p>Laboratory</p> <p>Oral presentation</p> <p>Role playing</p>	<p>PowerPoint Presentation</p> <p>Reference books</p> <p>Posters</p> <p>Computer and printer</p> <p>Internet</p> <p>Lead questions</p> <p>Project-based learning activity</p> <p>Computer and printer</p> <p>Internet</p>

<p>III. Equipment Calibration</p> <ul style="list-style-type: none"> A. Fan spray nozzles B. Travel speed adjustment C. Application rate <p>IV. Procedures for Matching Pesticide to Pest</p> <ul style="list-style-type: none"> A. Cultural pest control B. Biological pest control C. Mechanical pest control D. Chemical pest control E. Genetic pest control <p>V. Disposal Procedures</p> <ul style="list-style-type: none"> A. Environmental Protection Agency standards B. Manufacturer's recommendation <ul style="list-style-type: none"> 1. triple rinse 2. puncture container 3. empty container 4. cover container 	<p>Research Demonstration Laboratory Observation logs Experiment Guest speaker Observation logs Learning logs Lecture Research Experiment Work-based learning Group investigation Homework Inquiry Lecture Research Guest speaker Demonstration</p>	<p>Guidelines for observation log Computer and printer Internet</p> <p>Guidelines for work-based project learning Computer and printer Internet Research project Case studies Scenarios</p> <p>Case studies Scenarios Research project Demonstration Performance task</p>
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<p>Unit Assessment:</p>	<p>Participate in discussion, research report, observational log, analysis, project</p>
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<p>Unit/Course CTSO Activity:</p>	<p>Students will participate in agricultural mechanics career development event. Students will participate in nursery and landscape development event.</p>
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**Unit/Course
Culminating
Product:**

Students will demonstrate proper methods for maintaining and using pesticide application equipment.

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Course Title: Greenhouse Production and Management

Unit: 8	Business Management
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Content Standard(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 13. Select quality greenhouse plants for marketing. 14. Demonstrate managerial skills for successfully operating a greenhouse business.
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Learning Objective(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 1. Explain how plant species are selected for production and how quantities are determined. 2. Discuss planting regions throughout the country. 3. Define total quality management. 4. Explain the empowerment of employees. 5. Distinguish between internal and external customers. 6. Outline the steps in a total quality management program.
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Essential Question(s):	What are the requirements for operating a quality greenhouse business?
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Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
<p>I. How Plant Species Are Selected</p> <ol style="list-style-type: none"> A. Cost of production B. Winter regions C. Daytime temperatures D. Production time E. Spacing F. Special requirements 	<p>Research Observation logs Inquiry Group investigation Collaborative learning Case studies Experiments</p>	<p>Computer and printer PowerPoint Presentations Demonstrations Research teams Case studies Models Experiments</p>
<p>II. Total Quality Management</p> <ol style="list-style-type: none"> A. Identify total quality management B. List sequence of processes C. List steps in procurement of materials 	<p>Research Inquiry Work-based learning Guest speakers</p>	<p>Computer and printer PowerPoint presentations Demonstrations Research teams Case studies</p>

<p>III. Empowerment of Employees</p> <p>A. Discuss employees' responsibilities</p> <p>B. Discuss employees' improvement plan</p> <p>IV Internal and External Customers</p> <p>A. Internal customers</p> <p>B. External customers</p> <p>V. Steps in Total Quality Management Program</p> <p>A. Discuss steps in TQM</p> <p>B. List steps in TQM</p>	<p>Case studies</p> <p>Instructional technology</p> <p>Guest speakers</p> <p>Inquiry</p> <p>Group investigation</p> <p>Brainstorming</p> <p>Laboratory</p> <p>Note taking</p> <p>Field trip</p> <p>Cooperative learning</p> <p>Lecture</p> <p>Lecture</p> <p>Inquiry</p> <p>Research</p> <p>Simulation</p> <p>Work-based learning</p> <p>Application cards</p>	<p>Models</p> <p>Experiments</p> <p>Student-designed assessments</p> <p>Computer and printer</p> <p>Research project</p> <p>Displays</p> <p>Posters</p> <p>Extended-response exercises</p> <p>Learning logs</p> <p>Group project</p> <p>Scenarios</p> <p>Rating scales</p> <p>Exhibitions</p> <p>Performance tasks</p> <p>Checklists</p> <p>Group projects</p> <p>Case studies</p> <p>Research projects</p>
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Unit Assessment:	Participation in discussion, research report, observation log, investigation report, project and project presentation, and analysis
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Unit/Course CTSO Activity:	Students will participate in agribusiness career development event.
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Unit/Course Culminating Product:	Students will design a quality greenhouse management program based on total quality management and customer relations.
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Course/Program Credential(s): <input type="checkbox"/> Credential <input type="checkbox"/> Certificate <input type="checkbox"/> Postsecondary Degree <input checked="" type="checkbox"/> University Degree <input type="checkbox"/> Other:
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Course Title: Greenhouse Production and Management

Unit: 9	Greenhouse Equipment and Facilities
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Content Standard(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 15. Maintain greenhouse facilities. 16. Maintain equipment used in greenhouse operations.
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Learning Objective(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 1. List and compare five types of growing structures. 2. List the characteristics of various greenhouse coverings. 3. List advantages and disadvantages of heating units. 4. Describe common tools required for greenhouse operations. 5. Describe safety precautions for using power tools. 6. Discuss steps in maintaining tools and equipment.
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Essential Question(s):	What are the tools and equipment needed to maintain a greenhouse operation?
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Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
<p>I. Five Types of Growing Structures</p> <ol style="list-style-type: none"> A. Quonset-style B. Ridge and furrow C. Lean-to D. A-frame truss E. Gothic arch 	<p>Lecture Inquiry Research Guest speakers Homework</p>	<p>Tests Quizzes Computer and printer PowerPoint Presentations</p>
<p>II. Greenhouse Coverings</p> <ol style="list-style-type: none"> A. Glass B. Corrugated plastic C. Fiberglass D. Soft plastic E. Shade fabric F. Vinyl G. Acrylic panels 	<p>Lecture Inquiry Laboratory Research Field trip Homework</p>	<p>Models Research project Displays Computer and printer PowerPoint Presentations</p>

<p>III. Advantages and Disadvantages of Heating Units</p> <ul style="list-style-type: none"> A. Steam heat B. Hot water heating C. Unit heaters <p>IV. Common Tools</p> <ul style="list-style-type: none"> A. Two-cycle engines B. Adjustable wrench C. Pruning shears D. Pruning knife E. Chainsaw F. Shovel G. Rakes H. Hoes I. Hoses J. Wheelbarrow 	<p>Experiment Research Field trip Group investigation Guided practice Observation logs Lecture Guest speaker Worksheets Case studies Application cards Group investigations Inquiry</p>	<p>Computer and printer PowerPoint Presentations Research project Oral presentations Reference books Posters Textbooks Computer and printer Reference books Posters</p>
<p>V. Safety Precautions with Power Tools</p> <ul style="list-style-type: none"> A. Eye protection B. Ear protection C. Cut-resistant gloves D. Reinforced boots E. Proper instruction 	<p>Guest speaker Lecture Worksheets Demonstrations Field trips Guided practice</p>	<p>Computer and printer PowerPoint Presentations Textbook Internet</p>
<p>VI. Maintaining Tools and Equipment</p> <ul style="list-style-type: none"> A. Keep accurate, updated records B. Equipment service intervals C. Fluid leaks D. Belt maintenance E. Hydraulic systems F. Sharp edges G. Inflate tires H. Proper lubrication 	<p>Guest speaker Lecture Worksheets Demonstrations Field trips Guided practice</p>	<p>Computer and printer PowerPoint presentations Textbook Internet Worksheet Checklists Inventories Performance tasks Teacher observations</p>

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Unit Assessment:	Participate in discussion, research project, observation logs, group investigation, report
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Unit/Course CTSO Activity:	Students will participate in Agmechanics Career Development Event. Students will participate in Small Engines Career Development Event.
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Unit/Course Culminating Product:	Students will maintain and service tools needed for greenhouse management and production.
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Course/Program Credential(s): <input type="checkbox"/> Credential <input type="checkbox"/> Certificate <input type="checkbox"/> Postsecondary Degree <input checked="" type="checkbox"/> University Degree <input type="checkbox"/> Other:
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