

Unit 5: Landscape Maintenance

Content Area: **CTE**
Course(s): **Horticulture III**
Time Period: **May**
Length: **30**
Status: **Published**

Unit Overview

In nature, woody plants have adapted to specific climatic and growing conditions. Once moved into the landscape, the plants may be subjected to adverse growing conditions. These conditions cause stress in the plants. Understanding the causes of plant stress, the impact of stress on plant health, and how stress can be reduced is important.

Enduring Understandings

Landscape maintenance is the continued effort to preserve the existing landscape. *landscape maintenance technician* is a qualified person given the responsibility of preserving the landscape. Landscape maintenance technicians learn skills through formal and informal training. The cost of landscape maintenance is influenced by the types of skills needed or jobs conducted. These skills and jobs can be categorized as general, landscape renovation, irrigation, plant care, and chemical applications.

Essential Questions

- How does the biology of woody plants influence maintenance practices?
- What are guidelines for pruning trees properly?
- What are some guidelines to consider when watering woody landscape plants?
- What are the reasons for pruning woody landscape plants?
- What skills must a landscape maintenance technician master

Standards/Indicators/Student Learning Objectives (SLOs)

- Identify the skills a landscape maintenance technician should master
- Describe how to estimate landscape maintenance costs
- Discuss some advantages and disadvantages of using computer spreadsheets in a landscape maintenance business
- Explain why woody landscape plants are pruned
- Describe how to prune trees properly
- Describe various pruning techniques used with shrubs
- Identify tools used in pruning woody landscape plants
- Analyze the influence of woody plant biology on maintenance practices
- Explain recommended watering practices for woody landscape plants

- Explain guidelines for fertilizing woody landscape plants
- Describe how to select and apply mulches to the landscape

9.3.12.AG	Agriculture, Food & Natural Resources
9.3.12.AG.1	Analyze how issues, trends, technologies and public policies impact systems in the Agriculture, Food & Natural Resources Career Cluster.
9.3.12.AG.2	Evaluate the nature and scope of the Agriculture, Food & Natural Resources Career Cluster and the role of agriculture, food and natural resources (AFNR) in society and the economy.
9.3.12.AG.6	Analyze the interaction among AFNR systems in the production, processing and management of food, fiber and fuel and the sustainable use of natural resources.
9.3.12.AG-BIZ.4	Develop a business plan for an AFNR business.
9.3.12.AG-ENV	Environmental Service Systems
9.3.12.AG-ENV.1	Use analytical procedures and instruments to manage environmental service systems.
9.3.12.AG-ENV.3	Develop proposed solutions to environmental issues, problems and applications using scientific principles of meteorology, soil science, hydrology, microbiology, chemistry and ecology.
9.3.12.AG-BIZ.3	Manage cash budgets, credit budgets and credit for an AFNR business using generally accepted accounting principles.

Lesson Titles

- Pricing landscape Maintenance Work
- Pruning landscape Plants
- Watering, Fertilizing, and Mulching Woody Landscape Plants

Career Readiness, Life Literacies, & Key Skills

TECH.9.4.12.CI.1	Demonstrate the ability to reflect, analyze, and use creative skills and ideas (e.g., 1.1.12prof.CR3a).
TECH.9.4.12.CI.2	Identify career pathways that highlight personal talents, skills, and abilities (e.g., 1.4.12prof.CR2b, 2.2.12.LF.8).
TECH.9.4.12.CI.3	Investigate new challenges and opportunities for personal growth, advancement, and transition (e.g., 2.1.12.PGD.1).

Inter-Disciplinary Connections

- 10. English Language Arts
- 10.8.12. Science and Technical Subjects: 9-12
- 10.8.12.SC12. Science and Technical Subjects: 11-12
- 10.8.12.SC12.3. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
- RST.11-12.1. Accurately cite strong and thorough evidence from the text to support analysis of science

and technical texts, attending to precise details for explanations or descriptions.

- RST.11-12.2. Determine the central ideas, themes, or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms
- RST.11-12.3. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

Instructional Strategies, Learning Activities, and Levels of Blooms/DOK

REMEMBERING: defining words, identifying shifts in movements

UNDERSTANDING: explaining point of view, distinguishing between subjective and objective rhetoric, paraphrasing excerpts,

ANALYZING: close readings and synthesis of texts

EVALUATING: credibility, historical accuracy, inferencing

- Fall Landscape clean up
- Mulching Flower beds
- Individual project
- Install Landscape Design
- Internet Research
- Large group discussion
- Online Activity
- Partner Project/Activity
- Small group activity
- Spring Landscape clean up
- Teacher provided activity

Modifications

-

At Risk Modifications

- Additional time for assignments
- Adjusted assignment timelines
- Agenda book and checklists
- Answers to be dictated

- Assistance in maintaining uncluttered space
- Books on tape
- Concrete examples
- Extra visual and verbal cues and prompts
- Follow a routine/schedule
- Graphic organizers
- Have students restate information
- No penalty for spelling errors or sloppy handwriting
- Peer or scribe note-taking
- Personalized examples
- Preferential seating
- Provision of notes or outlines
- Reduction of distractions
- Review of directions
- Review sessions
- Space for movement or breaks
- Support auditory presentations with visuals
- Teach time management skills
- Use of a study carrel
- Use of mnemonics
- Varied reinforcement procedures
- Work in progress check

ELL Modifications

- Choice of test format (multiple-choice, essay, true-false)
- Continue practicing vocabulary
- Provide study guides prior to tests
- Read directions to the student
- Read test passages aloud (for comprehension assessment)
- Vary test formats

504 and IEP Accommodations & Modifications

- Allow for redos/retakes
- Assign fewer problems at one time (e.g., assign only odds or evens)
- Differentiated center-based small group instruction
- Extra time on assessments

- Highlight key directions
- If a manipulative is used during instruction, allow its use on a test
- Opportunities for cooperative partner work
- Provide reteach pages if necessary
- Provide several ways to solve a problem if possible
- Provide visual aids and anchor charts
- Test in alternative site
- Tiered lessons and assignments
- Use of a graphic organizer
- Use of concrete materials and objects (manipulatives)
- Use of word processor

Gifted and Talented Modifications

- Alternate assignments/enrichment assignments
- Enrichment projects
- Extension activities
- Higher-level cooperative learning activities
- Pairing direct instruction with coaching to promote self-directed learning
- Provide higher-order questioning and discussion opportunities
- Provide texts at a higher reading level
- Tiered assignments
- Tiered centers

Summative Assessment

- MPA
- Performance Assessments
- Unit Assessments

Alternative Assessments

Alternative assessments:

Performance tasks

Project-based assignments

Problem-based assignments

Presentations

Reflective pieces

Concept maps

Case-based scenarios
Portfolios

Benchmark Assessments

Benchmark Assessments:
Skills-based assessment
Reading response
Writing prompt
Lab practical

Formative Assessment

- Class Discussion
- Group Work
- Guided Practice
- Oral Response
- Performance Assessment
- Teacher Observation
- Warm up

Resources & Materials

- Teacher's Supplemental Website
- Unit Specific Power Point Presentation
- United Streaming (Related Videos)

Technology

TECH.8.1.12	Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.
TECH.8.1.12.A	Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations.
TECH.8.1.12.A.1	Create a personal digital portfolio which reflects personal and academic interests, achievements, and career aspirations by using a variety of digital tools and resources.

TECH.8.1.12.A.5	Create a report from a relational database consisting of at least two tables and describe the process, and explain the report results.
TECH.8.1.12.A.CS1	Understand and use technology systems.
TECH.8.1.12.B	Creativity and Innovation: Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.
TECH.8.1.12.D	Digital Citizenship: Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.
TECH.8.1.12.D.1	Demonstrate appropriate application of copyright, fair use and/or Creative Commons to an original work.
TECH.8.1.12.D.2	Evaluate consequences of unauthorized electronic access (e.g., hacking) and disclosure, and on dissemination of personal information.
TECH.8.1.12.D.CS1	Advocate and practice safe, legal, and responsible use of information and technology.